The future of interactive entertainment
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EDGE

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Unreal unveiled
Has Epic rumbled Quake's game?

Capcom
Street Fighter III and beyond

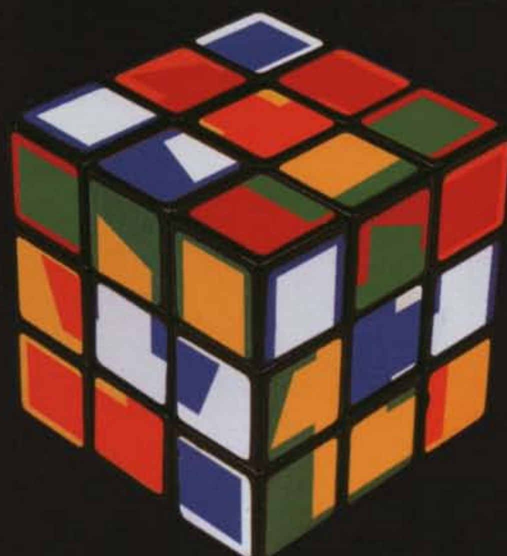
96/97
Edge reels in the years

Scud Race
Sega's Model 3 supercar



Sega has an enviable reputation for producing high-quality racing games, and its new title, the oddly named *Scud Race*, is set to reinforce it. Inside, **Edge** talks to AM2, the team facing the awkward task of improving on its last driving sensation, the all-conquering *Daytona USA*...

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Last year was a memorable period for the videogames industry. Most pertinently, it represented a major leap for the development of the videogame itself, and this month's feature reveals ten of the very best – all released during the last 12 months.

The arrival of the Nintendo 64 played no small part in this, with *Super Mario 64*, *PilotWings 64*, *WaveRace 64* and *Mario Kart 64* all living up to the 64bit promise made by Nintendo. By contrast, the company's secondparty 'Dream Team' policy has lost its direction, with the N64's original killer apps, *Killer Instinct* and *Cruis'n USA*, now the victims of an ironic turnaround. Fortunately, though, this month's *Turok: Dinosaur Hunter* shows that some developers are still keen – and able – to push the envelope.

Despite the current strength of the console market, 1997 could well be the year that the PC finally breaks into the videogames mainstream. With MMX set to become the standard, and 3D accelerators finally giving developers the power they have long clamoured for, this year will hopefully bring the machine kicking and screaming into the next generation.

Technology progresses, games continue to evolve – these are clearly exciting times for interactive entertainment. Make sure you're plugged in…

The future is almost here…

Voted Magazine of the year
Industry awards

Printed in the UK
© Future Publishing 1996

ABC (Audit Bureau of Circulation)

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FREEPOST BS4900, Somerton
Somerset TA11 7BR
Tel Customer services: 01225 822510
Customer order line: 01225 822511
Fax 01458 274378
The annual subscription rate for one year is: UK £42 (£40 direct debit), post free; Europe £71; rest of world £100
Overseas distribution: Future Publishing +1225 442244

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Colour reproduction

Colourworks Repro, Bristol
Phoenix Repro, Bath

Print

Cradley Print, Warley, West Midlands
Edge is printed on Royal Press 90 gsm

Production of Edge

Hardware: Power Macintosh, PowerBook, Quadra, and IIsi by Apple
Software: *QuarkXPress*, Adobe *Photoshop*, Aldus *FreeHand*, Pixar *Typestry* and *Nisus*
Typography: (Adobe®)
TFCavalier Medium / ***Extrabold***
Arbitrary Regular/**bold**
Trixie-Text/**plain**/light/cameo
Formata light/**regular**/**medium**/**bold**
Vectora light/**bold/black** AmoebiaSans
Fifth colours: Pantone®

Cover

Image by Sega



Unreal



Photography: **Jude**



Street Fighter III



Resident Evil 2





Scud Race Photography: **Shigeru Mikoshiba**

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cutting edge

THE LATEST NEWS FROM THE WORLD OF INTERACTIVE ENTERTAINMENT

UK softco leads charge for M2 thirdparties

An unknown developer lays claim to the first UK-developed M2 game







RPG *Power Crystal* is one of the first games to be developed for the M2 outside of Japan. It features a fully realtime environment and a complex landscape generated at 60fps. These mocked-up shots are rendered in a higher resolution than those in the game, but use no less geometric detail

Following its recent coverage of Matsushita's infamous M2 platform, **Edge** has uncovered news of a third party game to be developed for the system in the UK. *Power Crystal* is the work of Perceptions, a team of ten people that has spent the past two years developing a state-of-the-art realtime 3D adventure in the mould of the forthcoming N64 game, *Zelda 64*.

This amalgamation of 'head-hunted' developers came together after company MD Andrew Whittaker finished coding work on the Jaguar game *Alien vs Predator* for Rebellion, only to be then approached by The 3DO Company. At this time 3DO still held all rights to the M2 hardware and its sale to Matsushita at the end of 1995 has since drawn clouds over the future of the console and all software currently in development. Whittaker remains optimistic, however, telling **Edge**: 'We believe that M2 is a very strong platform and we believe in supporting new technologies. But we do not have all our eggs in the one basket and will continue to support other machines.'

Despite working on underpowered dev kits – still based around a single PowerPC 602



The system's lighting and texturing features will be used to create exceptional atmosphere, such as in this beautiful snowy village scene





All in-game characters will be rendered with polygons. Developer Perceptions plans for an enormous interactive world to explore

instead of the dual configuration planned for the final machine – the Perceptions team are enthusiastic about the hardware. 'M2 really is the single finest piece of hardware that we have worked with,' continues Whittaker. 'Its power will hit the world of entertainment software like a tidal wave and to call it a quantum leap forward is such a gross understatement that it does it injustice. Its texture-mapping power and brute processing speed means that we can do so much more than on other systems, and *Power Crystal* is the game we've always wanted to build.'

Meanwhile on the M2 front in Japan, all has gone strangely quiet once more. Following **Edge**'s exclusive reports in **E**37 and **E**40, Matsushita is refusing to talk further about its

'M2 REALLY IS THE SINGLE FINEST PIECE OF HARDWARE WE'VE WORKED WITH... ITS POWER WILL HIT THE WORLD OF ENTERTAINMENT SOFTWARE LIKE A TIDAL WAVE'

console plans, but its links with coin-op developers Capcom and Konami are finally starting to bear fruit. On a recent visit to Capcom's Osaka offices (see page 44) **Edge** was shown a prototype fighting game running on Matsuhita's hardware, while it is also known that a Konami M2 beat 'em up has been briefly spotted on test at an arcade site in Kobe. No screenshots of either are currently available and it isn't even known if the companies plan to unveil the games at the gigantic AOU show in late February.

Similarly, Japanese thirdparty development is still largely in the hands of WARP and its *D2* project, although **Edge** has also learned of one other title – this one from Genki, a team that has worked on several titles for Sony Music Entertainment (*Beltogger 9* being its most recent). The title is rumoured to be a shoot 'em up in the style of *Panzer Dragoon* although no official comment has yet been made.

So far, Matsushita's handling of M2 has garnered little confidence from the software development community and until the company reveals its plans for a consumer launch it's unlikely that the situation will improve. Until then, **Edge** will endeavour to uncover more information and next month it will present an exclusive in-depth look at *Power Crystal*.

Namco goes to the movies

Namco is launching a film development company with the intention of creating a CG-based movie better than 'Toy Story'. The project, a joint venture with Polygon Pictures, is already underway and expected to premiere in the US before the year 2000.

Namco, which also bought bankrupt movie company Nikkatsu recently, has invested ¥6-7 billion in the ambitious project.

Who is it?

This pink game character has appeared on the Game Boy, NES and SNES. Though he has the ability to mimic a hoover, his new game sees him doing something quite different





WARP's *D2* is one of the most advanced M2 titles in development and clearly shows great potential. Despite this, even its creators are unsure what the future holds for the platform. At least while it lies in the hands of Matsushita...

MMX technology **hits** **PC accelerator** market

The PC gets another shot in the arm from American semiconductor giant Intel

Intel has officially launched its Pentium processor with MMX technology chips, claiming that this is the most significant upgrade of the x86 architecture since 1985. Already in volume production, Intel is offering it at 166 and 200MHz for desktop systems and 150 and 166MHz for mobile computers. Pricing is competitive, with the 200MHz version coming in at US$550 in 1K units, only US$49 above the conventional P200, and it is estimated that this will lead to MMX-enabled machines hitting the UK market at price points roughly £100 over their conventional counterparts.

The new silicon features an expanded on-chip cache, which has been doubled to 32K, and more efficient branch prediction, but the key components are Intel's 57 new instructions to the architecture and its adoption of highly parallel operation via a technique known as single instruction/multiple data (SIMD).

The new instructions have been developed specifically to boost graphics, video and audio performance by enhancing the speed of processing the compute-intensive loops typically found in these applications. Rather than changing the chip architecture, Intel has opted to allow MMX-specific instructions to use the current Floating Point register which is then reset after use. This, coupled with the chip's ability to process data in 'burst mode' leads to the hike in performance.

Even without MMX-native software, Intel claims that the new chipset gives a 10-20% performance increase. With MMX code that naturally rises, with the company claiming a 4x increase in, for example, 2D graphics.

The demonstrations laid on at MMX's launch, held in January at London's Mayfair Intercontinental Hotel, were certainly impressive enough – a complex Gouraud- and Phong-shaded polygonal object being displayed at 25fps using an MMX P200, as opposed to the 15fps achieved with a conventional P200.

Audio capability is boosted too, Yamaha's XG MIDI Synthesiser Engine giving software performance that significantly improves on current paradigms.

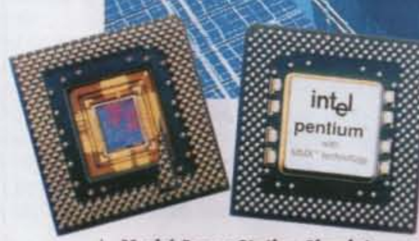
Software on show included Maris' highly impressive *Space Station Simulator* and UbiSoft's rather less spectacular racing game *Pod*, with an enthusiastic UbiSoft spokesman claiming, 'You won't see this type of graphics on either the PlayStation or Nintendo 64.'

According to **Dave King**, Intel's director of sales for northern Europe, the introduction of MMX should at least give the PC parity with leading consoles: 'If you look at the launch there are a lot of games which take advantage of the hardware features straight away. Previously it would be about a year or more before people would mobilise for it.'

Details of forthcoming software are sketchy, but Intel forecasts a minimum of 100 MMX-enhanced titles across all categories by year end and states that 'hundreds' of developers are working on applications (one of whom, Sega, announced 'direct translations' of its coin-op portfolio, starting with *Virtual On* on the same day as launch). Software is also on the way from Blue Byte, Psygnosis, Cryo and DID, among others. With industry-wide support and Intel releasing the Pentium Overdrive Processor allowing customers to update current Pentium chips later this year, the ramp to MMX seems a smooth one.

'Reaction has been fantastic,' says King. 'We thought we'd have to do a big campaign to build MMX up, but people wanted more information faster than we actually had it to give to them and were saying they want to write to it straight away.'







Maris' *Space Station Simulator* (above) and UbiSoft's *Pod* (right) are two of the first games set to use Intel's new MMX technology



MMX is set to boost the capacity of all games, including non-native titles, by at least 10%

it is...

Kirby, the invention of Japanese softco HAL Laboratory, which is currently collaborating with Nintendo on the distinctive-looking *Kirby's Air Ride* for the N64

Further details...

More information regarding MMX technology, including speed comparisons with non-MMX processors, can be found at Intel's website (www.intel.com). The site also lists the manufacturers set to release PCs with MMX technology built in.

Chilean coders land **$200,000** Enix prize

Enix, the creator *Dragon Quest*, chooses a puzzle game as grand prize winner





***Estructura* (above), from The Crisis Group, was the overall winner. *Final Coastor* (left) was a runner-up**



***Football Labo* by Ryutaro Kanno claimed the first runner-up prize of $50,000**

Enix defects to PlayStation

Enix has joined Square Soft in deserting the N64 for the PlayStation. Its *Dragon Quest* RPGs achieved phenomenal success in Japan, where they're among the top five best-selling games of all time.

Nintendo had originally planned for a 64DD version of the latest in the series, *Dragon Quest VII*, which was also originally the case with Square's *Final Fantasy VII*. Now that have both defected to the Sony camp, the N64's RPG line-up consists of only three games – *Zelda 64*, *Mother 3* and *Erutel*.

With *DQVII* now confirmed as a PS release (and *FFVII* setting records for the being the most pre-ordered videogame ever), the PlayStation looks set to become the machine of choice for the millions of RPG fans in Japan.

The winners of the Enix Internet Entertainment contest have been announced, and the competition has been deemed a resounding success. The grand prize, an impressive $200,000, goes to a Chilean outfit called The Crisis Group for its puzzle game, *Estructura*.

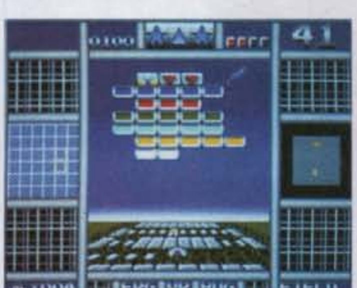
The competition was the first of its kind and was designed to help revitalise the home programming scene. The big surprise has to be that a country with no reputation in game development to speak of has won the grand prize. Evidently, game design is no longer the sole preserve of the US, Europe and Japan. Having said that, eight of the remaining twelve runners-up were Japanese, which is also something of a surprise – PC games are still running some way behind console titles in terms of popularity in Japan.Only two runners up were based in the US, the remaining two hailing from two other unusual sources, Argentina and Russia.

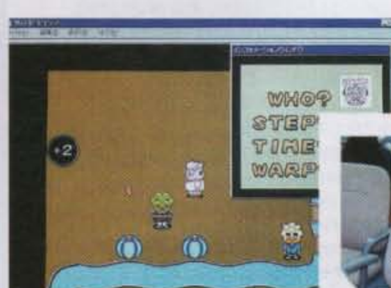
It is perhaps a sad reflection of the decline of hobbyist programming in the UK that Britain was conspicuously absent from the roll of honour. There has been much doubt in recent months over the future of the 'bedroom programmer', with the PC taking much of the blame for being such a potential minefield to the budding game programmer.

On the evidence of this competition, the PC, despite its many perceived flaws, has taken the place of the Amiga as the amateur programmer's machine of choice, and its growth in Japan means that the world could soon see Nipponese-bred PC titles of a quality to match those of consoles.

Enix plans to run the competition again this year. To register on the Net, contact www.marinet.or.jp/com/enix.

IT'S A SAD REFLECTION OF THE DECLINE OF AMATEUR PROGRAMMING IN THE UK THAT BRITAIN FAILED TO REACH THE FINAL LIST







Some of the runners-up: *Multiplexor*, by Natori Takayasu (left) and *Cosmic Animals* by Tomokazu Ito (right). The contest's judges had a wild time (right)

Mario attacked by **pirates**

Nintendo feels the squeeze from pirates as N64 copiers filter into the Hong Kong market



Triad's Cyclops 64 comes with a PC board, Cyclops unit and a blank 128Mbit N64 cart

The N64 has fallen foul of software piracy technology after just seven months on sale. Several cart copiers (aka 'back-up systems') are now readily available in Hong Kong and others will be launched worldwide in the next few months.

Most of the copying systems out now, or on the way, are based around similar technical principles. The forthcoming Cyclops 64 from Triad Data, for example, comes with a blank N64 cartridge with 128Mbits of Flash RAM, a PC-board expansion card, the Cyclops unit itself and a cable to link the unit to the PC. To employ the system, PC users simply plug an N64 game into the Cyclops cartridge port and copy the information directly onto the PC hard drive (each N64 game is expected to take up between four and 16 megabytes of space). This data can then be downloaded into the blank N64 cart so that, to quote Triad's website, 'you can take the cart to a friend's house and play just as if it were the original.' The device will cost US$430.

The availability of 'back-up' systems is not a new phenomenon. Companies like Triad have been developing and releasing the devices ever since cart machines such as the Famicom and Master System first appeared. But with each stage in console technology, copiers have become more sophisticated, and appear earlier in each console's life.

The plummeting cost of RAM may be one factor that has allowed companies to bring out copiers for the N64 so much earlier. It is a situation bound to aggravate Nintendo as the potential for software piracy is massive. However, it is doubtful whether the availability of 'back-up systems' will cause the Japanese giant to regret sticking with the cart format, as the company would have lost millions more to pirates had it gone for the more vulnerable CD-ROM option.



The Doctor 64 copying unit sits under the N64 and includes a CD-ROM drive





The Cerebrus device from Triad (above) will copy SNES and Mega Drive carts as well as the N64 variety

Eidos signs **John Romero**

Eidos believes that new studio, Ion Storm, will be the next id

Eidos Interactive has signed a ten-year publishing and distribution deal with John Romero's new studio, Ion Storm. Romero left id Software last August, determined to form his own development team following a shift of emphasis at id from game design to proprietary 3D technology. Judging by the line-up of talent, Ion Storm is all set to become the next id. Romero is joined by Tom Hall, another ex-id creative also responsible for 3D Realms' *Rise of the Triad*; and Todd Porter, a 7th Level veteran. Mike Wilson has left id to join Ion as chief executive officer – Romero's right-hand man.

Meanwhile, id Software is beginning to look like a mere shadow of its former self. Jay Wilbur, who helped transform the company from shareware phenomenon to industry giant, left last year. Of the original *Doom* team, only programmers remain, with co-founder John Carmack dedicating all his efforts to producing increasingly advanced 3D engines. Relations between the two companies remain strong, and Romero plans to license the *Quake* technology for the first batch of Ion Storm titles, due out in the Autumn. Eidos' recent success with *Tomb Raider* has propelled the company into the premier division of software publishing, and it will be counting on Romero and his hand-picked group of gurus to help sustain that momentum.

it is...

'Trainspotting', based on the acclaimed novel by Irvine Welsh. The website (www.trainspotting.co.uk) includes facts about the film along with a small but amusing photo gallery





John Romero's last project for id was the phenomenally successful *Quake*. He'll license the engine for 'action adventure and RPG' titles

DATA STREAM

According to the SPA (Software Publishing Association), approximate revenue lost worldwide due to software piracy: **$12bn**
N64 worldwide shipments reached by the end of 1996: **Circa 4m units**
Amount of added footage in the new 'Star Wars Special Edition': **4 minutes**
Revenue pulled in from the original 'Star Wars' cinema release: **$20m**
Average daily hair loss of a human being: **40 to 100 strands per day**
Amount of time the human eye is closed in a day through blinking: **20 minutes**
Sony's revenue from global PlayStation hardware and software sales to date: **$2bn**
Electronic Arts' share of the leisure software market in December '96: **19%**
Nintendo's: **7.7%**
Sega's: **7.6%**
Microsoft's: **4.1%**
According to the 1996 TGI report, number of people in the UK who have computers at home: **12.8m**
Number of those which are IBM-compatible PCs: **3.9m**
Percentage of people who use their computers for videogames: **55%**
For personal finance: **47%**
For the Internet: **8%**
Percentage of Pentium owners who use their computers for games: **69%**
According to *More!* magazine, percentage of women who find the smell of alcohol on a man's breath a turn-on: **39%**

Brussels sprouts videogame **workshop**

The EC recently held a workshop dedicated to tackling key videogaming issues

The Commission of European Communities held its first videogames industry workshop late last year, in Brussels. Its aim was to learn from delegates and speakers just how the Commission could better help European hardware and software developers compete in the global market. The workshop was split into four areas covering platforms, tools, content and intellectual property rights, and as such was an overview of the state of industry.

Sony's general manager of European software development, **Juan Montes**, opened by noting that the lifespan for a new platform was getting ever shorter and was now no longer than three or four years. He believed that software was the key component in any platform's success but that the formula for a successful game was a gamble, a mixture of creative talent and marketing.

He went on to outline a few of the problems facing the software producer. Most serious of these was the fact that, with development of a single title usually in excess of 12 months and costs approaching the $1m mark, the risks were high. Also, games only had a shelf life of six to eight weeks, with the top 20% of new titles taking 80% of the revenue. He believed that the challenge for Europe was to cultivate more talent to create the next generation of games and took the opportunity to Sony's Net Yaroze project as a valuable component in making this happen.

Alias Wavefront's **Peter Ryce** took the stand to discuss the role of tools in game creation and saw that developers now wanted the seemingly impossible – more sophisticated tools that were easier to use. He also stated frankly that he thought Europe lagged behind Japan and the US in development, partly because of smaller team sizes – something that other speakers argued fostered creativity rather than stifled it.

Of those speaking on the subject of content, **Denis Fortier** of Infogrames and Millennium's **Anil Malhotra** offered their views. Fortier shrewdly pointed out that the Commission had to realise that videogames were the only part of the new media industry that could turn a real profit. He urged the Commission to financially support the videogames industry to help it compete with American and Japan.

Malhotra proved to be the most eloquent of the speakers and identified many of the specific problems facing the majority of European developers. He suggested that the industry should be viewed as a pyramid with a few large, high-profile companies at the top and hundreds of small, independent software developers at the bottom – the life blood of the industry.

Looking to the future he saw that videogames would become component-based rather than application-based and drew another pertinent analogy. In urging the industry to get away from games with a short lifespan, he described such games as akin to movies with a long development time, high financial risks and a very small sales window. He hoped videogames could copy TV soap-opera production, releasing cheap pilot episodes and finding loyal, long-term audiences. With the sort of component-based system he described, he believed software producers could constantly test and modify games, releasing small chunks via the Internet and ensuring a steady income.

While the workshop was to some degree inconclusive, it was, at least, a step in the right direction for the EC.

Many of the suggestions for action arising from the workshop were, perhaps inevitably, bureaucratic and revolved around discussion groups, consultants and associations. These have little to offer smaller developers apart from an added expense, but if a framework can be arrived at to help such companies compete or simply survive then that can only be good for the future of interactive entertainment.





Millenium's Anil Malhotra (above) and Sony's Juan Montes (right) delivered addresses at the first workshop, held in Brussels

WITH THE SORT OF COMPONENT-BASED SYSTEM MILLENIUM'S ANIL MOLHOTRA DESCRIBED, PRODUCERS COULD CONSTANTLY TEST AND MODIFY GAMES, RELEASING SMALL CHUNKS VIA THE INTERNET

Acquiring a report

The workshop's 70-page report is free to interested parties and copies can be obtained from Jean-Yves Roger of the European Commission (telephone: +32 3 396 8162, fax: +32 2 296 8387).

(out there)

REPORTAGE FROM THE PERIPHERY OF THE VIDEOGAMES INDUSTRY

Club Together

Although they have flirted with each other in the past, it was 1996 that saw a full-blown love affair develop between videogames and club culture. Psygnosis prompted the dalliance by releasing the soundtracks to *Wipeout* and *Wipeout 2097*, and Sony hastily took up the match-making baton, placing PlayStations in clubs up and down the land.

Now, in order to keep the fires burning, other software companies have revealed their intentions to sponsor themed nights at various respected nightclubs. One of these is Ocean, which gave its name to several drum 'n' bass nights at Manchester's fashionable Club Code venue last autumn. However, instead of just handing the club's owners a fistful of cash to display the Ocean logo in the toilets, Ocean PR Manager Stephen Hey felt it would be more interesting to give the evenings a distinctive theme by basing them around one game. 'Our philosophy is not to throw money at a club hoping that the owners will give us lots of "shouts", but to actually contribute something to a night,' explains Hey. 'People don't want to be sold to when they go to clubs – they just switch off. They're after a unique entertainment experience.'

So, to stop clubbers from switching off, Ocean came up with a series of *Tunnel B1* nights featuring imagery from the game projected on to club walls and plenty of PlayStations running – you guessed it – *Tunnel B1*. Ocean also customised a Volkswagen Beetle with *Tunnel B1* images, fitted it with a PlayStation and huge speakers, and then drove it into various clubs around the north west. Clubbers were duly invited to play *Tunnel* in between frenzied dancing sessions.

The events were so successful that Ocean went on to design the flyers for a series of manga-themed nights at the legendary Hacienda club, and is set to increase its club presence throughout '97. 'This year we'll be working with some really exciting new talent and some of the biggest DJs around, trying some brand new ways to mix games and clubs,' Hey promises. 'We will, of course, be doing a lot of this in Manchester, but we also plan to take these innovations on mini tours throughout the UK.'

Gremlin also targeted the club scene to publicise its games at the end of last year. The company ran a successful *Actua Soccer* night at Islington's Complex venue, where club-goers participated in *Actua Soccer* competitions and tournaments for various purses. 'The serious clubs wanted to offer their audiences an interactive experience,' Gremlin's George Georgiou told **Edge**.







'Videogames were the obvious medium to do this, and we saw a good opportunity to be part of it.' As with Ocean, Gremlin has used its initial foray into clubs to foster further links: 'We've established a close relationship with Universe, organisers of Tribal Gathering and Big Love, as well as The Complex. To take the relationship one step further, we've provided Universe with product range brochures which are being sent out to everyone on their substantial mailing list.' Like Ocean, Gremlin has definite plans to expand its club activities this year.

It seems, then, that the bond between clubs and games is still going strong, and the two look set to remain an item throughout 1997. Hey offers a rather unusual explanation for the coupling: 'Our market research showed definite parallels between the people who went to clubs and the people who purchased games. Also, dancing provides kinetic, aural and visual stimuli that are very similar to those that videogames supply. It sounds strange but we have acres of research that prove it... sort of.'

That's that cleared up, then.







(out there)

Saturn gets Idol





The cult of the Japanese pop idol has taken on a whole new interactive slant courtesy of Sega arcade supremos AM2.

Digital Dance Mix is the latest project from Yu Suzuki's team and features the talents of one Namie Amuro – currently Japan's most successful teen pop idol.

This curious budget release (¥2,800) on the Saturn allows players to direct their own 'pop videos' featuring a smooth, hi-res, realtime model of Namie bopping along to her own top-ten hits. Background sets can be altered, the camera can be moved and zoomed through 360 degrees and there's even an option to change Namie's clothes to something more to your liking.

Rumour has it that the temptation for AM2 to include a joypad-activated bonus kit-off mode was almost too great to resist.

Up, up, left, down, right…

Aural X

Prompted by the successful release of the *Wipeout* soundtracks, Team 17 has produced a CD of music from its recent blaster, *X2*. The CD, a collection of techno-tinged tracks with some aggressive guitar riffs thrown in for good measure, has been written and put together entirely by in-house musician Bjorn Lynne, working under the pseudonym Dr. Awesome. Lynne claims there is no corporate marketing strategy behind the decision to release the CD, seeing it as an advertisement for in-game music rather than for *X2*: 'Game musicians work hard, but I don't think they get much recognition – I guess a lot of people tend to take game music for granted.'

It's not the first time western-produced game music has been released in this form, of course – *Turrican*'s tunesmith Chris Hülsbeck has released three CDs, one selling over 10,000 copies, while Tommy Tallarico released a compilation of his work through Virgin in '94.

The X2 CD is available directly from Bjorn at Team 17 (tel: 01924 267776) or from http://cd.store.co.uk. ***Edge*** *readers can obtain it for £10 instead of the usual £12.99.*



Positive Images





Psygnosis, already responsible for kicking off the club/game crossover trend (see story, opposite), has now turned its head toward the visual arts.

The Liverpool-based softco is sponsoring an exhibition entitled Video Positive 97: Escaping Gravity, which takes place in several Liverpudlian and Mancunian venues from April 11 to May 18.

According to the event's organisers, the purpose of Video Positive is to bring together the work of various cyber artists in an exploration of digital creativity.

Perhaps of most interest to **Edge** readers will be the technology-inspired work of artists such as Jane Prophet and Tony Oursler (see pictures, left), as well as the interactive exhibitions presented at Manchester's Cornerhouse venue.

There will also be a screening of the film 'Fuzzy Logic 2' – an intriguing piece which offers a mix between videogame graphics and club culture.

As well as exhibitions, screenings and performances by established artists, there will also be a student conference which is set to include computer graphics workshops and a Softimage masterclass chaired by none other than renowned ex-Psygnosis CGI designer Jim Bowers.

As for the inevitable club connection, the event is being launched at Liverpool's influential Cream, while the student conference includes a night at Manchester's Hacienda.

For more information phone the Foundation for Art & Creative Technology on 0151 709 2663.

BIG IN JAPAN

- THIS MONTH...
- CONSOLE HACKING
- ENIX AND SONY
- SEGA COIN-OPS

THIS MONTH, EDGE'S JAPANESE COLUMN LOOKS AT THE BIZARRE PURSUITS OF THE COUNTRY'S MOST UNCONVENTIONAL VIDEOGAMING PUBLICATION. ENIX'S NEWLY FORMED RELATIONSHIP WITH SONY AND SEGA'S LATEST COIN-OPS ALSO COME UNDER THE SPOTLIGHT

A magazine on a mission

Game obsession is nothing new in Japan. The otaku (game fan) culture has long been associated with young Japanese who eat, sleep and think nothing but videogames. 'Game Labo' ('Game Laboratory') magazine takes this obsession a stage further, not with tips on how to crack the games, but with advice on how to crack the consoles themselves. It's packed with features describing how to get the most from the hardware, usually involving a lot of extra wires, a screwdriver and some obscure desire to mate one system with another, and it sells over 70,000 copies on a bi-monthly basis. One of the most bizarre results is a head-mounted display made from a disembowelled Virtual Boy and a handheld vid-cam, but other projects include clocked-up Game Boys and N64s and a hi-res version of the SNES, offering double the standard number of lines on-screen.

Editor **Suzuki Norimichi** (below) is proud of his original and editorially independent labour of love: 'Our magazine does not include information from software companies. We focus on the users, unlike most magazines in Japan, which are filled with advertising and news from software companies. We publish ideas from our readers and we deal mainly with how to modify hardware.' Not something that the likes of Sega and Nintendo would approve of. Such companies regard interfering with the insides of their consoles as a cardinal sin, and one that many Japanese games mags would avoid committing, lest they find their adverts drying up and exclusives mysteriously vanishing. The chief reason for this anxiety stems from the high incidence of hardware piracy in the region (it's believed that Nintendo lost millions in 1992 following the arrival of reverse-engineered Super Famicom systems and carts from mainland China). Nevertheless, 'Game Lobo' is undeterred.

'If a project is feasible, then we publish it,' Norimichi-san proclaims. 'We delve into the underground culture. In Japan, there are many subjects which are taboo in games magazines, such as piracy, copying hardware or modifying it. Magazines could not, for example, publish an article about piracy, but in reality, there are lots of pirate CDs in Hong Kong. The very existence of Datel's Action Replay system is denied by the major publishers. If it's a reality, though, then we'll show it...'

Enix climbs into bed with Sony

Enix, the once-faithful Nintendo developer and maker of the popular *Dragon Quest* series, has officially announced that it will be developing games for PlayStation. In 1996, it released its first N64 RPG, *Wonder Project J2*, and development for the system is expected to continue. The Enix announcement follows hot on the heels of Square's defection to Sony last year, and leaves many confused Japanese RPG fans wondering which system to buy for the eagerly awaited *Dragon Quest VII*. Whichever console the game appears on, it can expect handsome rewards – *Dragon Quest III* sold four million cartridges on the Super Famicom...

Sega reveals latest to arcade trade

At a recent private show in Tokyo, largely for the benefit of the Japanese arcade trade, Sega presented *Scud Race* and its cabinet for the first time, along with the latest version of *Sega Ski Super G* and, curiously, a digital camera. The impressive *Scud Race* made by far the biggest impact (see **Edge**'s in-depth report on the game, which begins on page 50). Sega uses a test site in Ikebukuro, Tokyo, for arcade games that are still in development, and games recently spotted by **Edge** include *Virtua Striker 2*, running on the Model 3 board, and a new AM2-developed, Model 2-powered title, *House of Dead* – a *Virtua Cop*-style affair which sees the player exploring a mansion and taking out zombies in all manner of increasingly gory ways. The game clearly owes a lot to *Resident Evil*.

In issue 44, **Edge** will have reports from the Tokyo AOU arcade show, as well as the UK's largest event of this kind – the ATEI.






Nothing is safe from the eagle-eyed 'Game Labo' editorial team. Within months of the arrival of the Nintendo 64, these young console surgeons had managed to up the clock speed, increasing performance








'Game Labo' is packed with advice for the budding console tinkerer (above). Sega's *Super Ski G* (right) follows the likes of *Alpine Racer* into Japanese arcades

Modem life is rubbish

This month, Edge looks at the problems facing Internet gaming in '97 and asks if the latest modem technology is the answer to Net gamers' prayers



Multiplayer games like *Quake* attract more people to the Internet, making the whole caboodle slow down considerably. Better modems *could* resolve the situation...





***Duke Nukem* sessions can be difficult over the Net due to bandwidth limitations. However, *Big Red Racing* (above) seems to encounter fewer problems**

Gamers will remember 1996 as the year in which Internet gaming became a real possibility. After the trend for games to support IPX for local multiplay and modem head-to-head connection came the near requirement for them to support Internet play. As a consequence, the US saw multiplayer networks like DWANGO, TEN and Mplayer spring up like mushrooms. It looked as though the Net gaming revolution was unstoppable.

However, the problem with the Net, and therefore Net gaming, is bandwidth. The advent of the World Wide Web a few years ago made the Net interesting, graphical and, frankly, understandable to normal people, so the number of users swelled. The result of this popularity – and the amount of bandwidth eaten up by graphical Web sites – is that the Net has slowed down. And the popularity of Net games isn't helping. Everyone playing *Quake* or something similar over the Net is eating up bandwidth along with Web users.

So it looks pretty grim for Net gamers, then? Well, yes and no. Some games run reliably and at a reasonable speed over the Net. Others don't fare so well. For example, there have been reports of gamers having huge difficulties gathering anything more than three players for a KALI session of *Duke Nukem*, yet cult title *Big Red Racing* will happily pull together a full roster of six players. What users need is a reliable method of speeding up Net access so that all games can be played effectively. Fortunately, Internet providers are busy investing millions in telecommunications links and faster modems to solve the problem.

Of course, one way to get consistently better Net access is to use the fastest possible connection. Most users should be running 28.8K modems now, and many can upgrade the Flash ROMs inside to run at 33.3K. Furthermore, there are already a number of modem manufacturers offering 56K modems, with US Robotics employing top Internet service providers (AOL, Prodigy, CompuServe, IBM, MCI and others) to field test its products. Just as users upgraded from 14.4K to 28.8K, so the industry expects the majority of people to upgrade to 56K when it becomes widely available. However, there have been questions from the telecoms industry about the viability of such speeds. There is a school of thought which claims that 28.8K is pretty much the fastest reliable transfer speed possible on today's phone lines, and that 33.3K users will probably end up just communicating at 28.8k anyway.

The best option for Net gamers at the moment is ISDN (Integrated Standard Digital Network), which provides the highest speed currently available – 128K. Unfortunately, that's not usually a practical option due to the prohibitive (although falling) set-up costs. A lot of Net users are certainly heading towards ISDN, though, and it does no harm that providers such as Demon offer ISDN dial-up access for the same cost as a regular modem account.

After 1997, things may get brighter. ADSL (Assymetric Digital Subscriber Line) is on the way, as are cable modems, both of which should increase the amount of bandwidth available to users. Increased bandwidth means less latency (the delay in data getting from one place to another), so Net games will become more practical and interactive, and less jerky or prone to termination through bad connections. However, the perennial problem with the Net is that as it gets quicker, more people throw more things at it, which eats up bandwidth, which slows it down, which means that before you know it, you're back to square one again... E

More Info

KALI
Despite KALI's problems with *Duke Nukem*, it remains one of the most popular gaming protocols and allows you to play pretty much any IPX-capable game over the Net. Fairly transparently to the user, KALI works by emulating an IPX network, despite the fact that users are connected to the Net using TCP/IP. It's an ingenious solution, and very popular with gamers. A new version of the KALI client is now available, offering compression (somewhat akin to the compression already used transparently by modems) to help reduce the bandwidth.

ADSL and Cable Modems
With an Assymetric Digital Subscriber Line, people will be able to send data at 64Kbits per second, and receive at speeds of 1.5Mbits to 6Mbits per second. This will apparently operate over normal copper phone lines. Cable modems will, of course, connect over the cable TV/phone system.

Hyperlink

US Robotics
- http://www.usr.com

Big Red Software
- http://www.worldserver.
- pipex.com/bigred/
(includes links to many of the main Net gaming sites)

Quake
- http://www.idsoftware.com

KALI
- http://www.kali.net



Very few programmers write a first game so good that they get to base their entire career around it. Richard Garriot is one of those few. Over the last 17 years, *Ultima* has sired eight sequels and transformed from a primitive adventure written in BASIC to an immense, true 3D epic.

But what does Garriot think about the series that made him rich and famous, and made his company, Origin, a videogame giant? **Edge** travelled to Texas to ask him

AN AUDIENCE WITH

Richard

Photography Jude



Garriot

Richard Garriot, head of Origin and the man behind behind the hugely successful *Ultima* titles, is building a castle. Not a model castle. Not an SGI rendered castle. A real castle. It will be positioned a few hundred yards away from his company's hi-tech HQ in Austin Texas. It will have a moat, portcullis, draw bridge, secret passageways and a dungeon. If all goes to plan, it will be ready to inhabit in five years.

Garriot, you see, is a man obsessed with British history and mythology. Fire-breathing dragons, sword-wielding heroes and, of course, magnificent castles fill his *Ultima* RPG action adventures, and each title in the series takes place in the complex, ever-evolving world of Britannia: a Middle Earth for the digital age.

In many ways the *Ultima* series is Origin's software backbone. The company was set up by Garriot and his brother in 1983 with *Ultima I* as the first product. Since then, there has been a new *Ultima* title to take advantage of every phase in both the company's, and the videogame industry's, development. Now Origin employs 300 people and inhabits 81,000 square feet of office space in Texas' most cosmopolitan city. It is also responsible for dozens of non-*Ultima* titles, including the immensely popular *Wing Commander* series and the soon-to-be-just-as-big *Crusader* titles. Not bad for a company which was started in a garage by a man who would blatantly be much happier fighting orcs. **Edge** recently kissed the bitter British winter goodbye and travelled out to sunny Austin to meet him.

Edge: Although Origin is responsible for dozens of other titles, the *Ultimas* are the games with which you are most closely linked. How is the series progressing?

Richard Garriot: Well, we have two *Ultimas* in development at the moment which is unusual for me – I usually work on them one at a time. There's *Ultima IX*, which is the third book in the third trilogy, so to speak, and it's also the big, final, epic, climactic story of this trilogy of trilogies. We're also working on *Ultima Online* which is a worldwide Internet original in the sense that you can't play this solo at all. Although we'll sell the game at retail, it requires that you log on and be connected to our servers here in Austin.

Edge: What are your goals with *Ultima IX*?

RG: Since it's the end of the trilogy of trilogies we wanted to make it the biggest of them all. So the way the storyline has evolved is, it ends the *VII*, *VIII* and *IX* trilogy ▶

which introduced this main ultimate evil character we have called the Guardian. It's also closing up storylines from *IV*, *V* and *VI* – the age of the Avitars. That was the original design, but we thought 'Gee, we can't not go back and touch the first few *Ultima*s,' so we included characters, artifacts, symbols and story elements that go way back to the beginning of the game. So it truly is the epic conclusion of all that has come before.

As for some of the design goals of the game, I like to use aspects of previous *Ultima*s as touchstones. For example, I think *Ultima IV* and *Ultima V* had the best story concepts. That was when we brought in the whole concept of virtue which was a real turning point in the history of *Ultima*, changing the series from generic hack 'n' slash to a series where the story was in the forefront and had some depth and adult meaning. *Ultima IV* is widely regarded as one of the best ever because it was the first to have that kind of depth. However, in my mind it was very black and white, very simplistic, because the story was actually quite repetitive: for eight virtues you had to do eight quests and these involved long sequences of very similar activities. To my mind *Ultima V* had a much better told story – it didn't simply revolve around bad guys and good guys, it had lots of guys who would appear as good but were really out to take advantage of you, and it also had bad guys who you could change throughout the game, teaching them the right way to go.

In effect, we've tried to come up with a story which has the meaningful impact of *Ultima IV* and *V*, but also combines this with one of my favourite things about *Ultima VI*: plot twists. *Ultima VI* was subtitled 'The False Prophet' and, at the outset of the game, you were set up to believe that this other race called the Gargoyles were evil and you were sent down a path of genocide to wipe them out. You find out late in the game, though, that the Gargoyles are in fact a very viable race with a very reasonable hatred toward you, and that, if you wipe them out, that's the bad ending – it's the wrong way to go. *Ultima IX*, then, is full of minor and major plot twists that we think will be very compelling and exceed the impact that *Ultima VI* had.

So those are the design goals. We're trying to exceed each of our predecessors in whatever it did best – which has taken a long time. This is by far the most expensive *Ultima* ever and we're taking the time with it, to make sure we give a proper conclusion to the numerical series.

Edge: Moving briefly onto *Ultima Online*, what excites you most about the project?

RG: It's on the Internet so that means it's happening on a worldwide basis. And I think it's going to be really cool when you meet new people from all over the world – and even bump into an old friend that maybe you haven't heard from in years.

Edge: Do you think that as multiplayer games grow and thrive, solo games – in the traditional sense – will increasingly seem lonely, isolated experiences? Will multiplayer online games replace traditional gaming as we know it?

RG: I think it will be quite some time – if ever – before multiplayer gaming replaces solo gaming. When I describe the problems we have in telling a grand epic story in *UOL*... solo games and online games are very different in what they're trying to do. Solo games are trying to be like a novel or a movie in as much as you're given the role of a main character, and you have the epic journey – no one else does. But with an online game, it's more of a huge, grand, wonderful place to go on vacation. They are two different experiences.

Edge: Another difference between online games and solo games is that, whereas traditional oneplayer games are just entertainment, online games fulfill other needs as well...

RG: One of the unfortunate side effects of computer gaming is that we have a whole generation of kids who have no social graces whatsoever. And this is exemplified in my mind by how much I hate going online for discussions, which I'm invited to do once a month or so. And I truly abhor going to do that for a variety of reasons, one because it's such a slow experience, but also, because everyone has a level of anonymity behind their online persona, they lose their normal good and proper etiquette. So you have people screaming over each other to get their questions in, people screaming expletives, people popping in to a chat room and making some dumb comment and then popping out again – the kind of behaviour that you would never get away with in the real world. So one of the things that I'm really keen to introduce with *UOL* is making people responsible for their actions, and this will happen as people are recognised by their online persona within the game.

Edge: People talk a lot about latency and business models as being thorny problems, but what do you think are the real issues facing the evolution of online gaming?



RG: The problems are figuring out what types of games are fun to play beyond the *C&C*, *Duke Nukem* and fighting games. The biggest issue is, what can you do to keep them coming back, and once they are there, how can you make sure that the experience continues to be rewarding? In a solo game you can orchestrate thrills and coordinate the experience, but in a game like this you just don't know, you have no idea. The good news about this is that, unlike a solo game, we can modify *UOL* once it has shipped. So, for example, if everyone is sat around in town B getting bored, then we can do something to make life a little more interesting for them.

Every time you go in the game, things are going to be different. Time will continue onwards, and it will never be the same game experience twice.

Edge: Which *Ultima* do you think has been the most rewarding in gameplay terms?

RG: *Ultima VII* was my favourite because of the interactivity of the world – you could interact with everything. You could actually go and harvest crops, you could take them down to a mill and grind them into flour, you could take that flour and mix it with water, you could take that dough, you could throw it in the oven and 15 seconds later a little loaf of bread would pop out and your could take that loaf and either eat it or sell it, and that same level of detail was true of the whole world. And so one of our goals for *UIX* was to exceed the world interactivity of even *Ultima VII*.

Edge: *Ultima VIII* was widely criticised for its move toward arcade-style gameplay and away from the traditional RPG styling of the other titles. What have you learnt from that game?

RG: One of my favourite aspects of *Ultima VIII* was the visual detail and the animation – it was by far the most beautiful of the *Ultima* series. Also, the capabilities of the Avitar were far greater than ever before – he could climb up over walls and hang on to ledges and jump up on to them. So with *Ultima IX* we're trying to exceed the visual beauty we had in *Ultima VIII*, but we're also being careful to not make the game arcade-like.

Edge: What specifically have you done to improve the visuals?

RG: In terms of technology, the whole game is in 3D. Everything from the characters to the world is 3D, but it's a third-person camera polygonal environment. The nice thing about being polygonal is that you can always rotate the camera – unlike with previous *Ultima*s when things would get lost behind the walls, here you can always turn the camera to fix that. Also unlike most '3D' games that have bitmapped creatures in them, everything in *Ultima IX* is polygonal. There are no 2D objects. When you see a log with an axe stuck in it, that's literally an axe stuck literally into a log that's literally in the ground. You can walk over and pull the axe out of the log and wield it as a weapon, etc, so all the level of detail you would expect from an *Ultima* adventure is in here, but with a lot of new advantages.

Another thing that I'd like to point out about *Ultima IX* is the way we created it. In bitmap games, when you build towns and suchlike out of base shapes, its like building things out of Lego: you have brick texture pieces and you add them up to build a house out of them. When we went polygonal, we stopped building structures in that way. Now, we actually just say to the editor, 'Go build a 3D object which is a house.' Period. And that house exists in one case: there are no generic building parts which get placed into every building, so every building can be constructed however you want. You don't even need to have vertical walls – anything you can visualise you can build if you want to. And so we worked very hard to make sure every environment had its unique look.

Edge: Along with true 3D graphics, prerendered scenes have become an almost compulsory visual element to PC games. Have you used any in *Ultima IX*?

RG: Although cinematics are kind of fun to spice up a game with, they're not the core of any great title. However, we found some interesting ways to include them in this game. Plus, there's one flick showing three people viewing the approach of the end of the world, and their motions and expressions are just so good that I feel we've really created the state of the art for human figure creation, even compared to 'Toy Story', which is about as close to state of the art as you get. In that film, though, they're doing it with toys and the reason they chose toys is because its a lot easier to animate something which is supposed to look like plastic. But if you look at that Lord British face, every hair, every whisker was individually modelled.

Edge Getting back to the series in general, why do you think *Ultima* has lasted so long?

RG: Well, here's what I think did it, and it's something that started right back at the beginning of the series. If you look at the very first *Ultima*, it was written in BASIC and it was a good game, but, being written in BASIC, it was pretty limited – it didn't have a very good interface, or a good story. In fact, it was really never written in order to be published. So with *Ultima II*, not only did I do things to improve the interface and the story which was normal, but I also rewrote the entire game in assembly language. And when I say rewrite, I didn't use the first one as a model, I started all over again.

Ultima II then was much better than *Ultima I* in terms of its physical capabilities, but it was



the very first assembly-language program I ever wrote so it was really pretty clunky. When I finished it I said, 'Boy, now that I've learned assembly language I could really do a lot better if I started over and rewrote it again from scratch.' *Ultima III*, then, was entirely rewritten and not simply based on *Ultima II*.

So with those games we started this pattern of retooling every aspect of the technology to make the maximum forward progress possible. Look at my earlier competitors like *Wizardry*, *Magic* and *Bard's Tale* – the original *Wizardry* was a great game and actually outsold *Ultima I*, but once they had a success they said, 'Ah well, in that case all we need to do is put in some new monsters and some new maps and we come up with *Wizardry 2*.' And so *W2* was technologically identical to *W1* and therefore appealed to a subset of *W1* owners. Looking at screenshots or reading text there was really nothing measurably better about *W2* over *W1*, at least nothing that would be easy to extract and market so to speak. On the other hand, *UII* was a clearly a superior product to *Ultima* and *UIII* was clearly a superior product to *UII*. Consequently, *Ultimas* tend to always sell to a larger and larger audience, whereas most of my early competitors would sell to a subset to a subset to a subset of their predecessors. After a while a lot of people caught on to that, so *Wizardry* is still around, but only as a shadow of its original self.

Edge: After nine incarnations, aren't you fed up with *Ultima* yet, even if gamers aren't?

RG: People often say to me, 'How long is this going to go on?' and, to be honest, I often ask myself, why am I still doing *Ultimas*? I've built a career out of one product line and that product line goes back to the beginning of the industry. When I look at movies that are sequeled over and over again I frankly get tired very quickly – after two or three I'm thinking 'Okay, I've got it, y'know, give it a break.' But I think that what's largely different about this industry than, say, the movie industry is the advancement of technology. If I go and pull out an *Ultima I* and an *Ultima VIII* or even a *II* and a *III*, there is so much of an immeasurable difference between them, the newer one will be a much cooler game and have so many more features than its predecessor. So, yes, they're all fantasy games and, yes, there are the same characters throughout, but it's never a case of the same games – it's never a rehash.

In my mind, as long as the technology continues to escalate at the rate it is currently going, I anticipate that there will be opportunity to continue creating vast medieval swords 'n' sorcery games like *Ultima* forever. It doesn't mean we have to call them *Ultima* and it doesn't mean they have to be in the same fiction, but the point is, the high concept of having interactive virtual worlds to explore is unlikely to go away or ever to become old or ever to become redundant for the foreseeable future.

Edge: *Ultima*, then, has survived by continually reinventing itself and employing new technology. So where do you think gaming is going, or more specifically, where do you think *Ultima* can go after *UIX*?

RG: I'm a big VR fan. Obviously it's a way overused phrase and, quite frankly, VR technology is pretty poor at the moment, but I'm one of the first people who would just love to have a really great VR headset you could just strap on and then go and explore the world of Britannia, for example. However, in my mind there are two aspects of virtual reality: one of which I call sensory, in the sense of how good does it look, how good does it sound, or, even better, getting to feel it. The problem with that is, it's not going to be here for some time. Well, ▶



Starr Long: associate producer on *Ultima Online*. The game's release date has now been put back to Spring



◀ there's also another aspect of virtual reality which is the intellectual aspect in the sense of how real is the reality? How believable is this place? You can make a pretty easy believable reality if your reality is pretty simple, like for example a racketball court – there are high-end racketball simulators that are pretty good, but that's not a very sophisticated reality, obviously. As far as I'm concerned, the *Ultimas* have been, from the very beginning, an attempt at being the most complete intellectual virtual realities in existence, and I think they've gone a long way to being there. I don't think there's another product that is even attempting, much less coming close to achieving, a complete living breathing world to the scale of an *Ultima*. And so that's where I think the *Ultima* series is heading – a virtual reality in the intellectual sense, and one day, when sensory aspects catch up, I would like to believe that it will also be the very first ever completely virtual world.

Edge: You mentioned that current VR technology is disappointing. Do you think expectations of what computers can do are advancing faster than the actual computers themselves?

RG: Oh, definitely. The thing is, RAM, picture memory and disc space are all scaling at the same rate, and since they're all scaling at the same rate, what's really happening is that the pictures are looking nicer, but the problems of animation and getting data to the screen are every bit as hard as they always have been – there has been no real improvement in the sense of animation performance, so it continues to be a very daunting challenge.

Edge: Do you think accelerator cards will play a significant role in bringing about an improvement in PC graphics?

RG: We're very excited about 3D accelerator cards, but there are two camps within Origin as to which ones we're excited about. The Jane's military sims team and the *Wing Commander* team are excited about all of them. And then there's the *Ultima* camp which is only excited about one or two. And the reason for this is there are two different kinds of cards: with most of them you have to load the textures up into the RAM of the card, but there are a couple – and there are future technologies coming on board – where you can drive the textures out of main RAM. For an *Ultima* we have to have the latter, because you can explore the entire world, so, as you move across it, there are new textures coming in all the time. Unfortunately, copying textures to the graphics card is one of the slowest operations you can do, so, for world-exploration games, the first type of card is not going to give us any speed advantage. Games which are mission-based like *Doom*, where you have a level and as long as you're playing on one level you're not changing texture groupings, can load all those textures into the card and run with that one level. But *Ultima* is past those cards – it isn't even going to attempt to support them and hopes they'll die a quick death. Instead we're hoping for the next round.

People having to buy RAM for video cards is bogus in my mind anyway, because RAM is very expensive and you're having to duplicate it in two different places and you're not usually using them both at the same time. So, in my mind, the proper architecture is that RAM should be RAM, and the processors and other components should all be able to access it at high speed. That architecture is coming, but it's the next generation past this first round of video cards.





Garriot has named the *Ultima* production team after his favourite Brittania character, Lord British

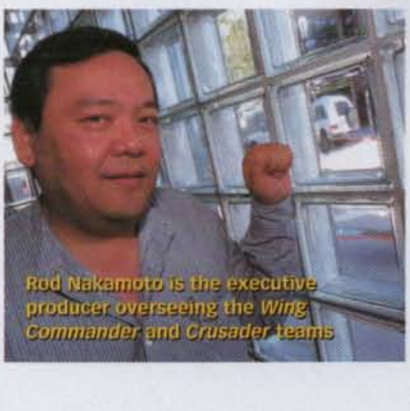
Edge: It's easy to get too hung up on technological and visual progress, though, isn't it? Surely *Ultima* hasn't just survived because of its regular graphical overhauls. How important is fiction to the series?

RG: If you look at the evolution of *Ultima*, the first three *Ultimas* were 'Richard Garriot learns how to program' and then there was *Ultima IV*. *UIV* was the first *Ultima* that really worked hard to have a plotline – and not only a plot but a plot which had some meaning and social significance, or social commentary subtext to it. I was really worried when we did it that people would think, 'Uh oh, they've gone way off the deep end – moralistic and preachy and all that sort of weird stuff,' but much to my pleasant surprise that didn't happen.

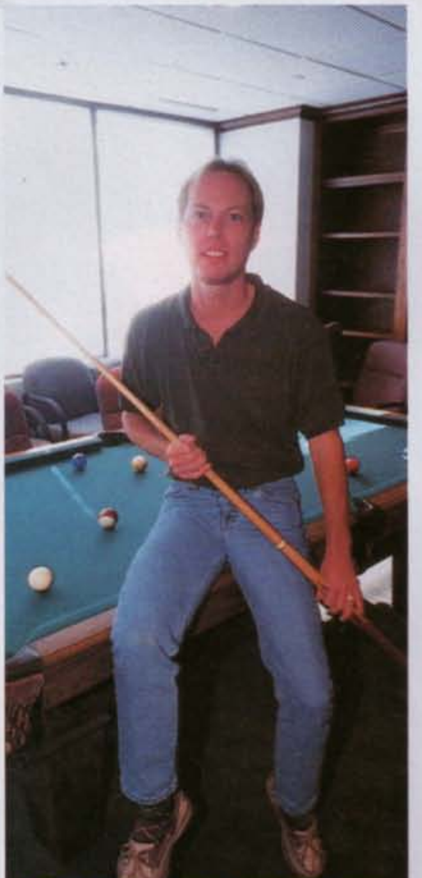
So, though *UIV* it was not that much further ahead than *UIII* technologically, it improved on the plot and was the first ever number-one-selling *Ultima* – it tripled the sales of its predecessor. This taught me that, yes, the stories are extremely important. If you analysed an *Ultima* story, there's the actual storylines, events that happen, etc, and then there's the subtext. I always wondered if people really got the subtext, in the sense that *UIV* was about proving yourself to be a person of good virtue; *UV* was about what happens when the government gets involved and starts to legislate on morality; *UVI* was about social tolerance... anyway, you get the idea. So for every one of them, I've got my little phrase as to what the social subtext is to me, and I was very pleasantly surprised to find that most people did get it – and people who played it a lot understood not only the big plot, but also the message, and the message can often be a contemporary issue so I'm very pleased with that response and I think it's very important to the continuation of the series.

Edge: Japanese RPG series like *Final Fantasy* and *Dragon Quest* managed to survive a long time without recourse to profound moral themes. What did you think of those games?

RG: I think they were fantastic. In fact, I'm amazed they didn't catch on more in the states. It's interesting because Gary Smith plays all those games and he's one of the chief designers on the *Ultima* series. We are constantly debating how much of that style to add to *Ultima*, because we all like it and think it's an excellent gaming paradigm. I even think we could have the best of all worlds by taking complete believable worlds like *Ultima*, but putting kind of fanciful, fun interactions all over it. However, we haven't moved too far in that direction, because



Rod Nakamoto is the executive producer overseeing the *Wing Commander* and *Crusader* teams



Andy Hollis: executive producer, Janes division. The *Win 95* version of *Apache Longbow* will be out later this year

we really don't think that the PC-based market is really prepared for that style of gaming. I really think that it should be, quite frankly. I really don't understand why titles like *Zelda* haven't caught on and become more popular here in the States, but they really haven't.

Edge: Do you think games like *Ultima* and *Diablo* are more gritty and realistic because that's what PC gamers in general want or because that's what American gamers want – more realistic fantasy worlds?

RG: It appears the latter to me. It seems Americans are looking more for 3D realism than fanciful playfulness. I couldn't tell you why.

Edge: Have you seen *Diablo*?

RG: Oh yeah, in fact it's really funny because when our marketing folks saw screenshots of it, they were going, 'Oh you've got to look at this,' as is prone to happen whenever we see competitive products in any of our genres, of course – everyone gets all excited about it: 'Oh we've got to go and check this out.' I think *Diablo* is a very beautiful product – it's fabulously beautiful, it has a really nice interface and it has a lot of really cool features in it. However, I don't really see it as a competitor to *Ultima*, in the sense that *Diablo* is fantasy *C&C* – it's not a role-playing game in the *Ultima* sense, it's a role-playing game in the hack 'n' slash sense. It is completely a combat game, it's not a world-exploration game – you don't find lots of artifacts and interact with things other than fighting or magic. If anything, *Diablo* should help *Ultima*. If people like *Diablo*, then it will help bring more people over to the fantasy genre, which will bring more attention to my products. I expect I'll spend plenty of time playing *Diablo* myself – we play a lot of *C&C*, *Warcraft* and other action strategy games in my group.

Edge: Do you think that, with the proliferation of *Doom* type games currently on the market, peoples' tastes are becoming much more simplistic, or do you think there's still a strong audience for complex RPG games?

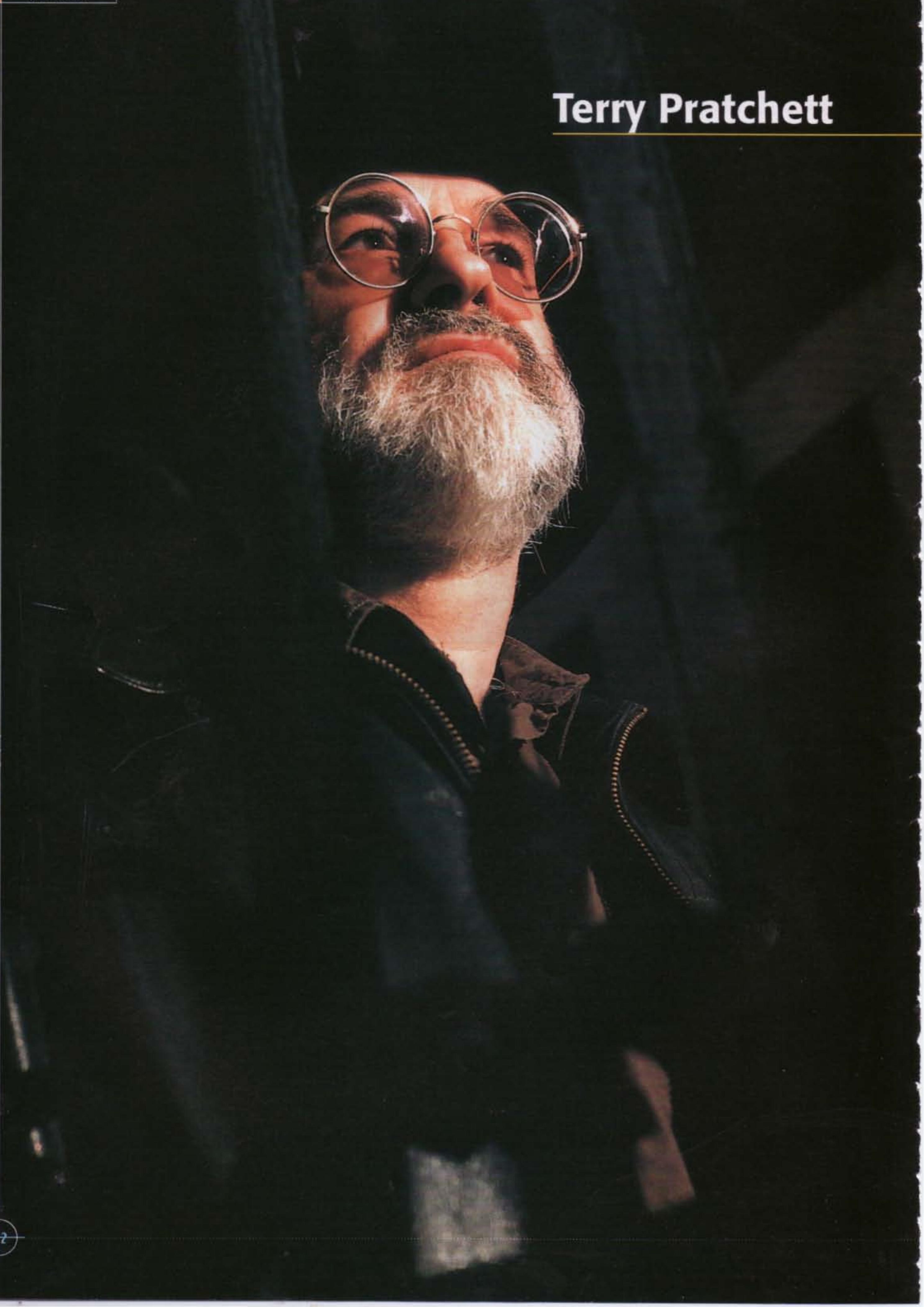
RG: Well, here's what I find interesting. I think too many people, including a lot of people within our organisation, fall prey to believing that genres attract people instead of believing that great games create genres. I am a believer that great games create genres, and so, for example, before *Warcraft* and *C&C* I don't think it was the case that everybody wanted to play those kinds of games, it's just that there weren't any. I believe those games were really great games, therefore people played them. Inevitably, then, other people really want to milk that by releasing games like *Warcraft* and *C&C* and jumping on the bandwagon, so to speak.

It was the same thing with *Doom*. The high concept of *Doom* has existed before in previous games – it's not like there was an audience of people who just wanted to play fast-action shoot 'em ups in corridors. It was really that it turned out to provide this really great gameplay which just struck a chord with people so they played a lot of it and will continue for as long as great games are being made in that genre.

However, every now and then great genres burn themselves out by lack of innovation, and quite frankly I think that it's currently a great risk with the 3D point-of-view combat game. I don't think there will be enough innovation to sustain it for that much longer. Quite frankly I'm amazed how long it's been going on – karate games have lasted way longer than I would of guessed, in spite of the fact that they've had plenty of innovation. I've been playing a 3D one in someone else's office down the hall, but it was the first time I'd looked at one for a few years and I went, 'Wow, this is really way better than a few years ago.' It was nicely motioned captured, and it did lots of cool stuff for me on the screen. I didn't know any of the moves, though, and was just jiggling around most of the time!

What I do find amazing in certain genres is how little innovation it takes to continue to build your audience. One area that baffles me is sports games. With the sports properties, they come up with a new title every year and every year they have new features and every year it's absolutely better than the year before. But these are often micro steps. It seems the same with *Doom* games – with these small steps forward people go, 'Wow, instead of 16 monsters, there are 32 monsters!', but I'm going 'So what! So what if there are twice as many monsters, I want something profoundly new and different!' I don't want five more moves and three monsters, I want something unique about this gaming experience! I don't want one improved feature, I want every feature to be better and I want a lot of features!' Apparently for certain genres it's not necessary, but I'm very devoted to maximizing forward progress. It just might be why we've survived so long...

Terry Pratchett



Photography: Michael Donald

novelist

Terry Pratchett is indecently good at his job. Good enough, in fact, to have made millions from it, and to be universally acknowledged as one of the world's best. Given that he's a novelist, it's rather surprising that he isn't a household name.

Perhaps the reason for this is that he treats writing novels as a job, preferring to knock out at least a couple of books a year rather than do the hot-air-fuelled rounds of the talkshow circuit. And anyway, he doesn't seem to need publicity. His distinctive comic fantasy adventure books, mostly set on Discworld (a flat planet which rides on the back of four elephants which, in turn, stand on an enormous turtle) have sold so phenomenally well that Pratchett has long since lost count. 'It's almost impossible to calculate,' he says. 'The books have been translated into more than 20 languages and more than 10 million have been sold worldwide, about 8 million by Corgi alone.' He has so far written over 20 books, including two – 'The Hogfather' and 'Feet of Clay' – last year. Jeffrey Archer is a small fry by comparison.

In the flesh, Pratchett seems endearingly avuncular, although a neatly trimmed expanse of greying facial hair and an ever-present felt hat lend him a rakish air. He is unassuming about his methods: 'I write and I answer the mail.' He has also been a videogamer since the days of the BBC model A, when ASCII-character graphics forced games to depend on interesting plots rather than visual trickery.

As a result, of course, adventure games proliferated like rabbits. Pratchett's novels, already generating a cult following, were ideal subject matter, and a Discworld-based game called *The Colour of Magic* duly arrived. Pratchett doesn't seem too enamoured of it: 'The game was fine for its time, but it wasn't marketed well.' Generally suspicious of flogging Discworld licences – he has resolutely avoided the lure of Hollywood's lucre – he waited until '95 to get involved in a second game project.

That was *Discworld*, developed by Teeny Weeny Games and published by Psygnosis. A pretty standard, though polished, point-and-click adventure using the vocal talents of, among others, Eric Idle and Jon Pertwee, in which you play Rincewind, an incompetent and cowardly wizard, it can't have done too badly – Psygnosis has just released a follow-up.

As for future game treatments of Discworld, Pratchett says: 'If there was ever a third *Discworld* game, I'm quite certain it wouldn't be like either of the first two, because technology is moving on.' Roughly translated, this means that one sequel is enough. And Pratchett, as a fairly committed gamer, is up to speed on the debate about the prevalence of sequels and the current lack of originality shown by developers.

Not that he necessarily thinks this is the developers' fault: 'I wonder right now where the scope for originality in games lies. I recently finished *Tomb Raider*, thinking, "Wow, doesn't she move well?" But another part of me says, "Yes, but it's a 3D *Prince of Persia*, or *Doom* with more puzzles." All games, by their nature, could be broken down into text puzzles, with extra sound and graphics.

'One game that I did enjoy for introducing a new perspective was *Wing Commander IV*, in which the moral decisions you make during the course of the game affect the outcome.' Pratchett obviously sympathises with games developers' increasingly futile search for originality, and draws a parallel with writing novels: 'It may be that we have reached the limit of videogames. But also, the basic stories that people tell don't change. There was a market for murder-mysteries in the 1920s. And there still is, although the nature of the detectives and the murders change.'

Having said that, Pratchett, displaying his hyperactive sense of humour, chooses to reveal his vision of a truly original game: 'I'd quite like to see what a *real* outer space shoot 'em up would be like. In one of my kids' books, I wrote a realtime game called *Voyage to Alpha Centauri*. It starts off as a dot on the middle of your screen, and if you can keep your machine on for the next 150,000 years, it gets bigger. I don't think a realtime outer-space adventure would be very playable.'

Pratchett comes up with an interesting take on the 'violence in games' debate: 'A friend of mine once made a movie set in a vicious world in which kids walked around carrying weapons. But they also had computer games which involved walking along the street, saying hello to people. This turned them into polite kids, which their parents couldn't stand.' His point, which seems entirely plausible, is that whatever the circumstances, kids will derive disproportionate enjoyment from doing things which annoy their parents. This is an argument which the games industry would do well to take heed of.

Another thing Pratchett likes in games is the unexpected: 'A key thing with all these games is how they deal with the surprising. For example, I played *Privateer* and made a point of exploring every system. But I ended up getting quite annoyed after trying unsuccessfully to find additional planets which had been deliberately left off the charts. Because of its vector graphics, I couldn't get to the edge of the universe, but I thought I'd go as far as I could to see what would happen. And there wasn't anything.'

Whether you like his books or not, Terry Pratchett is one of the UK's leading novelists and something of an unsung national treasure. He must also be one of the only novelists with an intimate knowledge of games. It would be interesting to see him team up with a game developer and indulge some of his more experimental gaming urges, something that could well ignite the spark of originality he believes is missing from contemporary videogames.

'*Discworld II* addresses some problems in the first title. It's harder than the first game but easier to solve – there are more clues'

Discworld II is very much a sequel – again you control Rincewind and again he bungles his way through a mission. '*Discworld II* addresses some problems in the first title,' says Pratchett. 'It's harder than the first game but easier to solve – there are more clues. You had to make occasional leaps of logic in *Discworld*. But there are more ways of doing things in *Discworld II*. For example, if you need something sweet, you might be able to use cake, honey or sugar. We've made an effort to avoid the situation where you have to get A and B before you get C.'

Eric Idle's voiceover role has also been expanded. Developer Perfect Entertainment got him to record over 2,000 phrases related to most conceivable scenarios. Such as? 'Phrases like: "Only a complete pervert would think of doing that with a fish,"' recalls Pratchett. 'We've tried to make it more human.' And, in general, it's been a success. The gameplay is no different to that of many other point-and-click efforts, but it's packed with random gags, puns and diversions – much like Pratchett's books. If you get stuck, you can at least find something to chortle at.



Prescreen Alphas

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UbiSoft, responsible for last year's *Micro Machines*-inspired *Street Racer*, has now graduated to 3D arcade-style racing with *Pod*, due for release on the PC in the Spring. The game, which at this point could be loosely described as *Wipeout* with cars instead of hovering spacecraft, is set on a dying planet where racers are competing for the last seat on a space shuttle bound for greener pastures (tenuous, yes, but at least it's original). The player can choose from eight futuristic vehicles and compete on 12 circuits, although more will be available for download from Ubi's website.

At the moment, the game is perhaps most notable for its early implementation of Intel's MMX technology (although a standard Pentium version will also be available, with an extra four tracks). This has allowed programmers to tease an impressive 30 fps frame rate out of a P120 – and that's at 640x480. Screenshots show plenty of lush visual detail and there look to be some excellent atmospheric lighting effects. Combine all this with a plethora of multiplayer options and *Pod* could turn out to be one of the most accomplished PC-only racers the format has seen.

PilotWings 64 co-developer Paradigm Simulation is continuing its commitment to the Nintendo 64 with a game for Japanese publisher Video System. *Sonic Wings Assault* (below) originates from an unmemorable vertical shoot 'em up series on the Neo-Geo, but this new version is an entirely different affair, more in the mould of Namco's coin-op and PlayStation title *Air Combat*.

After a period of silence, Bullfrog is finally nearing the completion of a couple of its much publicised PC titles. As well as the hugely delayed *Dungeon Keeper*, which Molyneux assures **Edge** is virtually complete (that'll be six more months, then), the eagerly awaited *Creation* is currently undergoing last-minute nips and tucks, and should be out on the PC by June (September?) with the PlayStation version due in September (December). Plot-wise, it's a kind of futuristic sci-fi adventure. Mankind has completely irradiated the oceans, killing off all life ▶



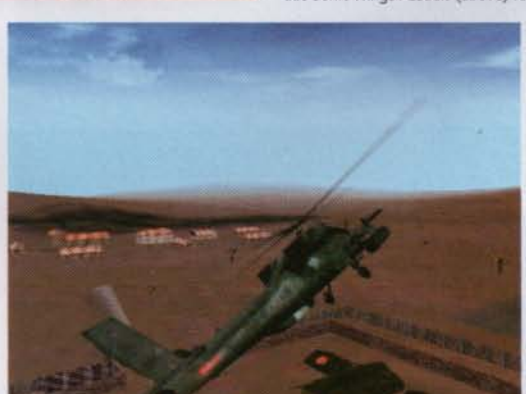




Paradigm's recently formed videogame division is putting together N64 title *Sonic Wings Assault* (above) for Japanese publisher Video System




Bullfrog's *Creation* (above), like many in its current roster of games, has been in development for ages. The company is now claiming a PC release in June



Eidos' stunning 3Dfx-powered *Team Apache* (left) makes possibly the best use yet of the PC 3D accelerator. Expect a more detailed look in issue 43







Hellracer, from Virgin developer Intersection, is a racing game with a free-form 3D landscape, with no set roads or pathways – it's up to the player to find the fastest route to the finish

Pod (above) from UbiSoft, is a futuristic racing game which uses MMX technology









Taito's *Ray Storm* features some of the best visuals yet seen on Sony's machine

◀ therein, except for a few lucky specimens which have been transported to a healthy ocean planet called *Creation*. Here, the player, as a kind of sub-aqua game keeper, must protect the various dolphins and whales from a dangerous narcotic fungi spreading across the sea floor. Unfortunately, any creature that ingests the substance becomes totally psychotic and will kill anything in the way of its next fungal fix. The ultimate aim is to destroy the fungi and help the undersea drug addicts.

Typically for Bullfrog, *Creation* represents a rich combination of game genres. Mostly, its a kind of underwater strategy title, but there's a hint of shoot 'em up in there as well. During the game, drug dealers from Earth turn up to harvest the fungi and the player (who sits in a multi-purpose mini-sub throughout the game) apparently has to repel them.

Along with the interesting plot, *Creation* also boasts some beautiful undersea graphics as well as new light sourcing techniques and 'realistic fish movement'.

Development house King of the Jungle (the team comprising the creators of the original SNES *Street Racer*; Stavros Fasoulas, the programmer of polished C64 titles



Norwegian development team Innerloop has created a revolutionary 3D landscape engine for the PC (left, below). A full report follows next month



In Japan the Neo-Geo isn't dead just yet. New arrivals include *Neo Bomberman*, *Samurai Showdown IV* (right) and *Fatal Fury 5* (far right). A Saturn version of the cutesy *Metal Slug* is also on the way, too









The Saturn version of *Manx TT* (below) has finally been unveiled by Sega and looks like a promising conversion. Whether the intended 60fps frame rate will hold true isn't known but whatever happens its arcade notoriety should ensure it a rapturous reception on a similar scale to *Sega Rally*











King of the Jungle's platformer *Agent Armstrong* looks explosive

such as *Delta*; and one-time ZX Spectrum coding maestro Raffaele Cecco), is currently putting the finishing touches to its own 3D action/adventure title, *Agent Armstrong*, for the PC and 32bit consoles. The game takes its visual cues from the 1930s and the graphics – a mixture of prerendered, 3D-modelled and traditional hand-drawn locations – certainly look interesting. Plus, the PlayStation version should make full use of transparency and fog effects, and the console's powerful polygon handling will allow for entire buildings to sink into the ground when destroyed – all running at a smooth 60fps (50fps in PAL). The developer is also working on a rally game for both PC and PlayStation, due for a late Summer release, but no screenshots are currently available.

Meanwhile, Rage Software, responsible for the *Striker* games on the SNES and PlayStation, is working on a number of multi-platform titles. *Striker '98* is due out by the end of the year on the N64, and a *Wipeout*-style futuristic racing game entitled *Hellracer* is also on the cards for the PlayStation. The similarity to *Wipeout* may not be coincidental – programmers and an artist from the original *Wipeout* team are working on the game. Unlike Psygnosis' game, *Hellracer* features freeform landscapes rather than confined tracks, forcing the player to seek out the fastest route to the finish line.





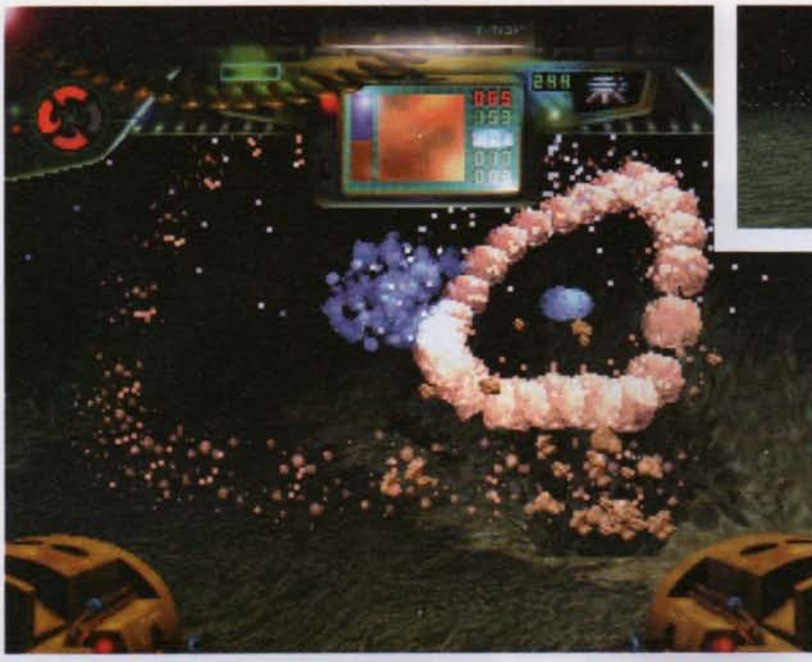
Tobal 2 (left) from Square features hi-res graphics and a better quest mode. Climax's *Runabout* (below)





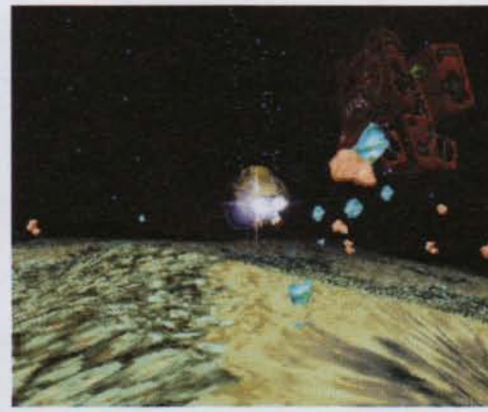








Rage Software's underwater title, *Under Pressure*, is on a collision course for Criterion's similarly aquatic *Sub Culture* and Bullfog's *Creation*. The emphasis here, though, is firmly on the action



◄ Rage is obviously in the mood for some healthy competition at the moment. The company is also producing an underwater sub game called *Under Pressure*, which will be going up against Bullfrog's *Creation* and Criterion's *Sub Culture* (and, if it ever appears, Scavenger's *Scuba*) in the burgeoning 'aquatic adventure' genre. Due to appear in the autumn, the game will be more of an arcade experience than a straight simulation, allowing the player to don scuba gear and explore crashed airliners and doomed nuclear subs.

Climax, having just finished the English-language version of its unusual action RPG, *Dark Saviour* (review next issue), is now turning its hand to the racing game that its director **Shinya Nishigaki** hinted at back in **E**37. Developed in cooperation with Japanese thirdparty developer Yanoman Games, *Runabout* (see screenshot, page 25) is the company's first PlayStation game. It features vehicles in the form of both cars and, humorously, mopeds, and should hopefully inject a bit of originality into a rapidly stagnating genre.

Finally, just as **Edge** closed the doors on issue 42, Eidos Interactive demonstrated a brace of 3Dfx-powered titles, *Terracide* and *Team Apache*. Needless to say, both look stunning. More next month...

Old shooters never die



2D shoot 'em ups are still popular in Japanese arcades and *Raiden Fighters* (top) is the latest in the popular series created by Seibu Kaihatsu. Another shoot 'em up getting a revamp is *Darius G* from Taito. As with Konami's latest *Gradius* instalment, *Solar Assault*, *Darius G* is a 3D polygon affair although in this case the action remains fixed on a 2D plane. More on this in future issues...





Maxis has added another sports title to its range with Anco's *Kick Off 97* for the PC (above). An in-depth prescreen will appear in **Edge** next month







Konami's much-delayed *Dracula X* for the PlayStation (right) features more role-playing elements than previous *Castlevania* games and will be released in Japan in March






New shots of *Zelda*, *Mother 3* and *Yoshi's Island 64* were released by Nintendo just as **Edge** went to press. *Yoshi 64* (top) has been created with an emphasis on stunning pseudo-3D graphics – it currently has a look not too far away from Sega's shallow but beautiful *Clockwork Knight* but expect Miyamoto to create gameplay on a par with, or perhaps even surpassing, the original landmark SNES title. *Mother 3* (above) is another sequel to a popular Japanese SNES series (*Mother 2* was released in the US as *Earthbound*) and developer APE has obviously been keen to make much of the N64's hardware – these early shots show evidence of it being as far removed from the original series as *Zelda 64* is from *Zelda III*



Gametek's first N64 title, *Robotech* (above), features some startling graphics but there's a distinct possibility of a *Starfox*-style trade-off in terms of restrictive 'on-rails' gameplay







Nintendo's latest set of screenshots from its forthcoming 64bit epic, *Legend of Zelda 64*, reveals further environmental detail to whet the appetites of fans everywhere. Link himself is modelled in spectacular detail






Excalibur 2555AD



Following hot on the heels of Lara Croft comes another female adventurer, on a quest to recover the legendary sword of the game's title. Will Telstar's ambitious 3D adventure have the legs of Core's standard-bearer?







Bill Pullan of Tempest: 'The raw polygon-pushing power of the PSX has been our main exploitation because each room is subdivided into lots of tiny polygons. We're getting over 100,000 fully lit, Gouraud texture-mapped polys per second, running at a constant 25-30fps'

A cursory glance at Telstar's latest PlayStation title will leave the average 32bit console owner – who hasn't spent the last six months asleep – thinking one thing: *Tomb Raider*.

'It's quite different,' counters Bill Pullan, managing director of Tempest, a Leeds-based development outfit whose previous game, *Lone Soldier*, hinted at its expertise in 3D (some members of the team once worked at Vektor Grafix on games such as *Killing Cloud*).

'*Tomb Raider* is basically *Prince of Persia* in 3D, whereas *Excalibur 2555AD* is more like *Zelda*,' Pullan continues. 'If you know these classic games, you'll know the difference. Okay, both *Tomb Raider* and *Excalibur* have a female lead character, and they're both third-person adventure games. But the similarity ends there.'

Excalibur tells the tale of a female adventurer from the mythical age of Arthur and the Knights of the Round Table. When the legendary sword Excalibur is stolen by warriors sent back in time from the far-flung future, she is projected

Format:	PlayStation
Publisher:	Telstar
Developer:	Tempest
Release:	March
Origin:	UK







The environments in the game vary wildly throughout the game, and each entire level is held in RAM, meaning no tedious loading. 'At times I thought we were never going to fit each one into just 2Mb,' says Pullan, 'but we did it'



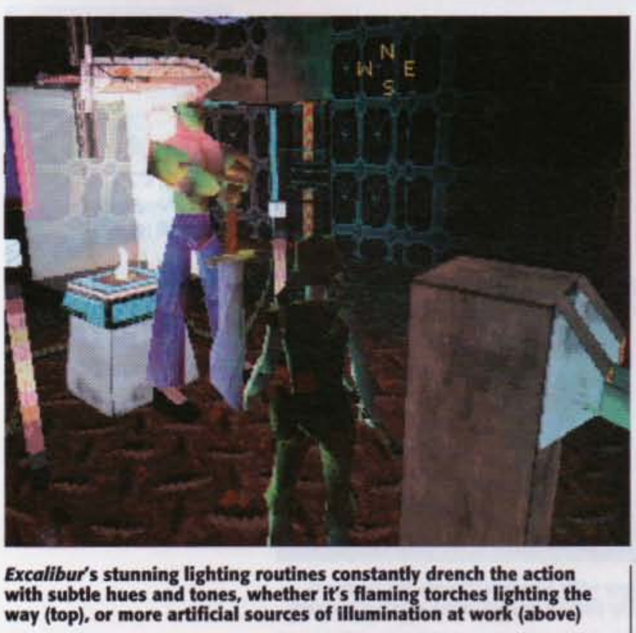




As well as confronting enemies in hand-to-hand combat (left and above), the player will have to learn how to use magic (above right). By combining different items from the game world, new spells can be created to offer a broad range of magical goings-on

Apart from graphical excesses, the real beauty of the game appears to lie in the sheer variety it offers





***Excalibur*'s stunning lighting routines constantly drench the action with subtle hues and tones, whether it's flaming torches lighting the way (top), or more artificial sources of illumination at work (above)**

forward into their time by her father, the magician Merlin, to retrieve it.

'Before we started the game there were all these fast action PlayStation games like *Ridge Racer*, *Wipeout*, and *Tekken* but not really many thinking man's games,' says Pullan. 'There were lots of people crying out for a good, atmospheric adventure game like *Alone in the Dark* or *Zelda*, so we set about writing one. But one that had adventure elements as well as action, one that lets you interact with many different characters and gives the player a feeling of not just completing the various levels of the game, but of unravelling a story.'

The *Alone in the Dark* analogy is a good one when examining *Excalibur* on the level of presentation. 'Games nowadays obviously need to look good,' believes Pullan. 'They need to catch the punter's eye and make him want to see more. So we decided right from the start to have a dynamic camera system that moved and zoomed to odd positions and angles to give that cinematic look. We also wanted to use lighting to create dark and creepy corridors and to add atmosphere. And to have many different characters that you can talk to – we ended up creating over 100 of them.'

This manifests in a realtime 3D environment that can be viewed from either behind the character (which appears to lend itself to clarity of action), or from a thirdperson, *Resident Evil*-esque mode (which proves more atmospheric).

Apart from graphical excesses, the real beauty of the game appears to lie in the sheer variety it offers: 'The designers worked separately so there was no crossing over of ideas which gives the levels a uniqueness without losing the flow. The number of different characters you meet contributes to this, as does the variation of the puzzles.'

With realtime lip-synching covering over 65Mb of speech, a clever spell system and an extravagant 3D engine, *Excalibur 2555AD* could well do for 3D action adventures what *Tomb Raider* did for 3D platform games. E

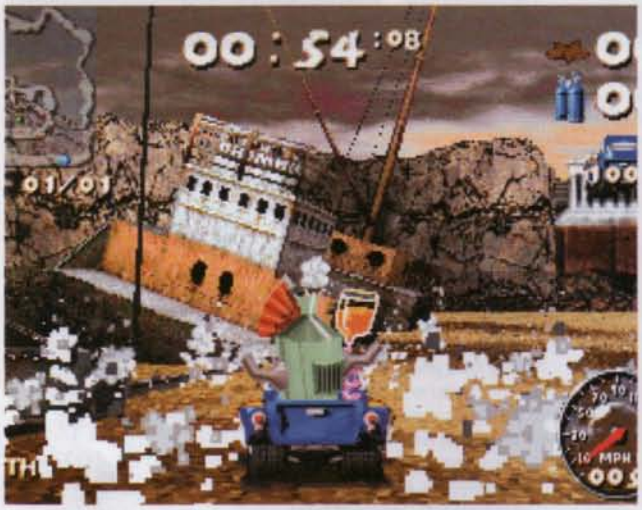


***Excalibur* works on one horizontal plane, replacing platform jumps with adventure**



Wreckin' Crew

Embryonic software developer Quickdraw is currently finishing a mix of *Mario Kart* and *Ridge Racer* that could give PC and PlayStation owners a taste of what the formats have so far been lacking





***Wreckin' Crew* is far from being a serious racing game, even though its technical merits would appear to lend themselves to the genre. Each racer has his or her own special moves, ranging from sonic booms generated by in-car sound systems to a rather more direct blunderbuss attack (right)**

Just outside of Wimbledon, a small, but perfectly formed, codeshop is working on a labour of love, a game that could bring together the playability nuances of the original *Mario Kart* with a cutting-edge 3D graphical quality to rival anything seen to date.

The team, Quickdraw Developments, was formed in 1995 and boasts a combined industry experience of over 60 years, with members culled from the likes of Sega, Psygnosis and Electronic Arts, among others.

'With *Wreckin' Crew* we want to create something that introduces 32bit power to the gameplay style, originality and longevity seen in classics like Mario Kart,' says Steve Pearce, chief coder on *Wreckin' Crew* and one half of Quickdraw's management partnership. 'It's not just a case of aiming to produce a version of a 16bit classic on a new machine, simply because having so much more power at your disposal should alter the original design. *Mario Kart* worked so well because it managed to get the balance between "easy to play" and "hard to master" just right. In taking just this aspect you have a great starting point from which you can use modern technology to expand upon all areas of gameplay – the driving model can have more subtleties that are only discovered after time; the game environments can be made more detailed; and the opposition AI can become more sophisticated.'

One of *Wreckin' Crew*'s chief strengths is the complexity of its level construction.







Though the game's urban levels bear similarities with *Ridge Racer*, they're 'free' 3D





One of Quickdraw's most notable achievements with *Wreckin' Crew*'s 3D engine is realtime animation. This fairground pirate ship (left) is one of many moving features

Format:	PlayStation/PC
Publisher:	Telstar
Developer:	Quickdraw
Release:	March
Origin:	UK





Quickdraw's Lloyd Baker is confident that *Wreckin' Crew*'s scope is one of its strengths: 'The sheer size is huge. Each of the racing worlds is made up of roughly 500,000 polygons which form about 3,000 distinct landmarks per level'

'Racing on the New York level is the equivalent of driving around the centre of London at 100mph!'

'We've designed it so that each level has multiple routes contained within it,' explains Pearce. 'If you look at any other track-based driving game, the most you'll see is a forked split in the road which joins up a short distance later. In our New York level there are roundabouts with five-lane turnoffs, each of which leads to further forks and T-junctions. A race on that level is actually the equivalent of driving round the centre of London at 100mph!'

This kind of detail clearly requires an extremely powerful 3D engine. 'We're able to generate around 2,500-3,000 polygons on-screen at any one time at 30fps on the PlayStation,' reveals Pearce, 'and at up to 60fps+ on a high-end Pentium. The floor alone requires up to 1,000 polygons per frame. Compare this to a linear racer such as *Wipeout* or *Ridge Racer*, where you merely see the track coming towards you, not roads and buildings leading off in all directions, and you'll see what we've achieved with our game worlds.'

The cars themselves are all accurate representations of genuine Hot Rods, some dating back as far as the '30s. Lloyd Baker, the other half of Quickdraw's visionary duo, is the man behind their look: 'Hot Rods have smooth, curved lines and body panelling, and to do them justice in a realtime 3D model would require a huge amount of polygons – it's easy to represent an Escort with polys, but a 1957 Chevrolet is a different kettle of fish.' Thus, like *Mario Kart 64*, *Wreckin' Crew* uses prerendered sprites on realtime 3D backdrops to maintain a rapid frame rate.

Upon these solid foundations, the team has built countless extra features. 'The way the worlds have been designed allows us to include many hidden features,' says Pearce. 'These range from secret routes and short cuts to teleports, level-specific power-ups, sub-maps and even subgames. We're particularly proud of this kind of attention to detail – something that's only usually seen in Japanese games.'

With its distinctive look and feel and link-up options for multiplayer gaming, *Wreckin' Crew* could push 32bit racers in a welcome new direction. ∎






Distinctive prerendered sequences introduce the game's many and varied characters



Though cars have been designed in a lightweight style, backgrounds are packed with polygon detail – witness this enormous, decrepit ship




Speedster

Having carried out the legwork for DMA's *Lemmings* sequel, Clockwork has turned toward a familiar genre for its latest game: an imaginative 3D racing romp







Clockwork has obviously spent a lot of time and effort developing the circuits for *Speedster*. Each looks to be a complex, multi-levelled affair with plenty of blind corners, jumps and impossibly banked corners

With *Micro machines 3*, *Manx TT* and *Touring Car* all due out this year and all poised to spawn copycat titles, the racing genre is set to be just as crowded in '97 as it was in '96. However, not all interesting racers will be from established names.

Speedster, for example, is the forthcoming title from Clockwork Games, previously known only for *3D Lemmings*. Due to the game's employment of a third-person viewpoint, it will probably get thrust into the comic book *Micromachines* category, despite the fact that, unlike other titles in this sub-genre, *Speedster* is true 3D. The camera angle is adjustable allowing players to view the game from many angles, and scenic objects are rounded rather than being merely textures slung onto single polygons.

The use of true 3D graphics has also given the designers room to experiment with interesting course elements like jumps, banked corners and raised roadways. There are some clever lighting effects, too: on the night city track, for example, vehicles light up when they drive under lampposts, providing a sense of interaction between car and scenery.

To add variety to the standard racing formula, Clockwork has included a wide selection of vehicles. Players will be able to choose anything from racers like the Ferrari and Buggati, to heavy vehicles like a dune buggy, jeep and pick-up.

Overall, *Speedster* looks very promising. Its track designs are neat and interesting, and plenty of thought appears to have gone into gameplay. With a split-screen mode completing the game's interesting list of attributes, Clockwork could soon find itself becoming famous for something other than pretending to be DMA.





Speedster uses true 3D visuals to give a realistic slant on the usually 2D-generated, overhead racing genre







Each of the available vehicles features realistic handling and collision physics

Format:	PlayStation/PC
Publisher:	Psygnosis
Developer:	Clockwork
Release:	April
Origin:	UK

Wild Choppers







Seta is claiming that it will take around three hours to master piloting *Wild Choppers*' helicopter. Foregoing the infinite ammo situation prevalent in most console air-combat games, it presents a complex game of heli-based action

Format:	Nintendo 64
Publisher:	Seta
Developer:	In-house
Release:	Out now (Japan)
Origin:	Japan

Seta has gone for a deep take on helicopter combat with *Wild Choppers*. The action will be varied as the player takes on a terrorist army in three missions, each divided into three further stages.

The mixture of tasks in each mission – destroying radar sites, rescuing hostages, etc – is very reminiscent of EA's *Strike* series, and the comparison is stronger still when considering the time and ammo constraints which will force players to fly and fight economically.

Progress to the next stage is dependent on the player gaining enough experience in the current mission – a further indication of Seta's stated, and welcome, intention of favouring interesting, strategic gameplay rather than all-out destruction.



Though not as visually strong as Nintendo's in-house titles, *Wild Choppers* looks tasty

Dynamite Soccer 64





***DS64* accentuates goals (top). An all-important replay mode is set to be included (above)**

Format:	Nintendo 64
Publisher:	Imagineer
Developer:	In-house
Release:	February (Jap)
Origin:	Japan

The J-League's success has transformed football's image in Japan so much so that it now rivals baseball as the country's favourite sport, meaning that football games are essential titles for cutting-edge consoles.

Imagineer's *J-League Dynamite Soccer 64* will arrive on Nintendo's machine in the wake of the superlative *J-League Perfect Striker* from Konami. Like Konami's game, *DS64* will use motion-captured players and 3D presentation with a fluid camera. And, similarly, the J-League license lets Imagineer use all of the league's data to portray players, teams and stadiums.

Other less than unique features include variable weather conditions, different modes of play (Championship, Cup, Friendlies, etc) and a commentator. However, on the evidence so far, *DS64* has less detailed graphics than *Perfect Striker* and it will certainly have to be something special to match the quality gameplay on offer in Konami's groundbreaking title.

With Electronic Arts' ongoing *FIFA* series also due to appear on the N64, Imagineer will have some stiff competition when it hits Japanese game stores' shelves this month.







***Dynamite Soccer*'s game camera offers varied views of the action, and benefits from a smooth 60fps update. Will it match Konami's effort?**







The realism afforded by the *Unreal* engine is breathtaking. Multiple light-sourcing and high resolution 16bit colour are standard features

Unreal

The history of videogames is marked by episodes of sudden, groundbreaking originality interspersed with long periods of imitation. At first, *Unreal* appears to fall into the latter category. It is, after all, a 3D firstperson shooter, and despite the recent advent of polygonal enemies, the genre may be fast approaching the limit of its creative possibilities.

However, it's soon evident that there's more going on here than originally meets the eye. The design team humbly refer to *Unreal* as 'The *Quake* Killer', and they may well be right.

As revealed in **Edge** 41, the game is based on one of the fastest, most flexible and sophisticated 3D engines ever designed, running at high resolution in 16bit color. It boasts realtime, multicoloured, dynamic multiple light sourcing and sports a huge number of of the most highly detailed texture maps **Edge** has yet seen in a game.

Even with the new technology, however, the game is still firmly firstperson. 'We like this perspective,' says lead programmer **Tim Sweeney**. 'The main problem I have with, say, *Mario 64* is that you get into these confusing bits where you wish the camera would go a certain way and it doesn't, or no matter how you move the camera, it's never quite right.'

The player takes the role of a prisoner who, while being transferred, crash-lands on an alien planet. A war between two sentient races has been raging on the planet for years and, thanks to the fact that the planet's core is made up of an element called Turitium, other







Unreal **may look like a generational leap ahead of** ***Quake*****, but the designer's influences are clear to see. The key for the Epic team will be to create a strong singleplayer as well as a multiplayer experience, which** ***Quake*** **failed to do**

equally hostile alien races have been crashing there with appalling regularity as well. The player is stuck in the middle of it, struggling for survival and trying to escape.

A female hero was originally planned for the game. However, according to co-designer **Cliff Bleszinski**, 'Although when we started, we thought having a female character would be revolutionary, now everyone's doing it, so we're going to have a male and a female, and maybe get a kind of 'X-Files' thing going on – except I think the guy's going to be bald and the woman will have tattoos.'

The sheer speed and beauty of the game's engine has been enhanced by Intel's new MMX processor instruction set. While this doesn't speed up the rendering directly, it does add to the game's detail and realism in startling ways. Bleszinski explains: 'For one thing, MMX enables us to mix coloured lights. So if you have a room lit in orange torchlight, with a blue light coming through the door, and you shoot a green fireball, it will all blend perfectly. The coloured lights still work on a regular Pentium, but it's going to be more sector-based and doesn't shade over quite the same.'

Marketing director **Mark Rein** adds: 'All you have to do is look at how much better the textures look in 16bit and 24bit colour, look at the water and at how much better the transparency is – that's a lot of what we use MMX for. If you don't have an MMX machine, you won't know you're missing something, but if you do have MMX, it sure looks nice.'

MMX instructions also help smooth and filter the game's numerous, detailed textures, of which the team is justifiably proud. 'A lot of them are 128x128,' Sweeney says, 'but some are as much as 512x512 for textures that align and repeat. Some special ones are even bigger.'

Lead designer **James Schmalv** adds: 'In fact, while we were testing how different things affected the frame rate, I thought, "Okay, let's try *Quake*-sized textures," which are more modestly ▶

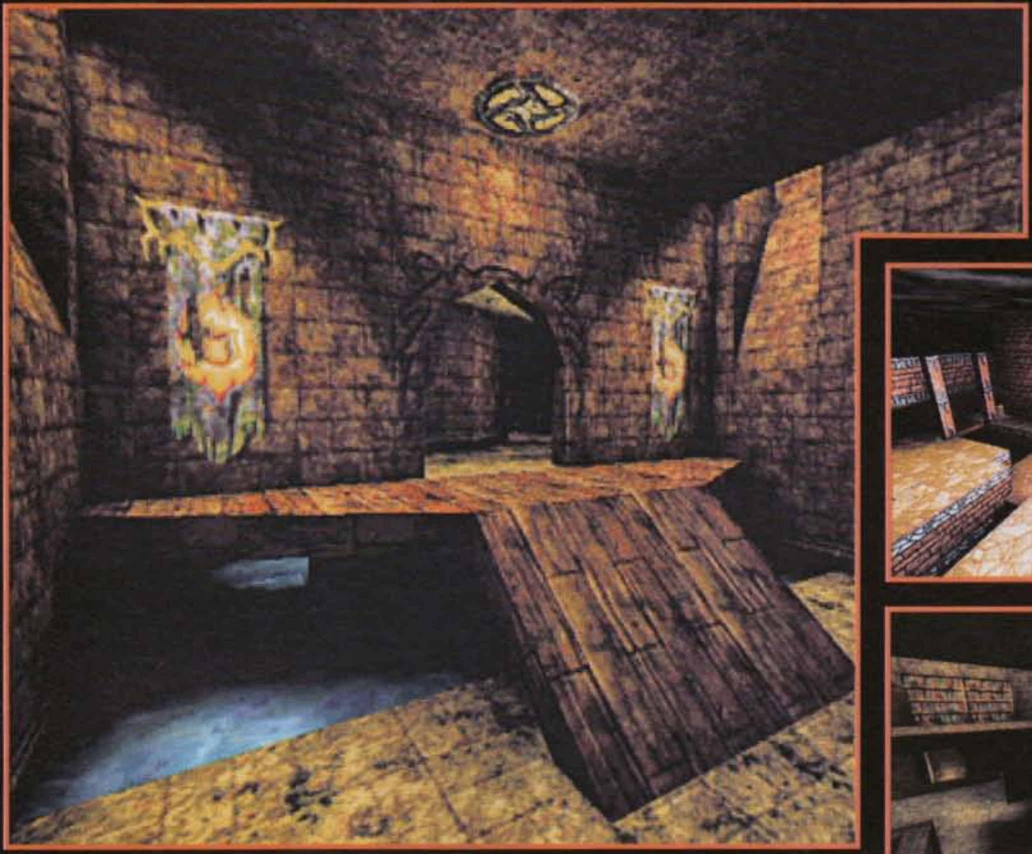


The publicly available level editor will make DIY maps a simple task





Coloured lighting, which was initially a feature promised for ***Quake*****, is used extensively throughout** ***Unreal*****. The water effects, such as coloured transparencies, are included courtesy of Intel's enhanced MMX chip instruction set**







The texture maps are incredibly detailed and transform the relatively simple geometry into a highly believable environment. Some of the textures are as large as 512x512 pixels

sized, just to see if it made *Unreal* any faster. Turns out there's a whole 3% speed increase, but we figured, "Well, at least our way we've got four times the detail!"'

Thanks to the large number of different alien space wrecks, each of the game's planned 30 singleplayer levels has a wide variety of looks. And, thanks to the 16bit colour palette, they're not just different shades of grey and brown (a criticism levelled at *Quake*) but feature lots of colourful (if still fairly subdued and moody) corridors and rooms. Outdoor scenes link the levels, so progress is seamless, with no breaks in the game's considerable action.

That action is, however, set off by a series of puzzles and other tasks that neatly avoid the 'button-door' affairs common in the genre. Instead, the game is more like a 3D *Metroid* in structure, with special objects that have to be found before you can progress to new areas.

A different set of levels is designed for multiplayer combat. 'Designing a level that works for both multiplayer and singleplayer is like building a car that goes on the water,' Bleszinski cracks. 'It's just stupid.'



The monsters are vastly superior in detail to those in *Quake*, but how many will appear onscreen at once, without slowdown, is debatable

Most exciting is a feature that Epic MegaGames wants to release to the public: the team's own level editor. Rein explains: 'What we hope to do is include an unsupported, feature-limited version of the level editor. Cut out all the dangerous stuff – like what's still buggy at the time of release or needs to be simplified – but give something with the game to spark interest. Later we'll release a standalone version with a really fat manual and a lot of prebuilt brushes and textures and sound effects. We'll "product-ize" it and make it easy to use, because we want people to be able to use this and not have to be rocket scientists.'

The team hope the editor will take the level hacking that began with *Doom* into a new realm, giving thousands of *Unreal* fans the chance to design their own worlds. It is sophisticated enough to enable almost anyone to import their own textures and build practically any structure and includes a scripting language for making puzzles.

If *Unreal* accomplishes nothing more than putting game design into the hands of the public, it will have made its mark. And if Epic, with the aid of partners DMA Design, can get the gameplay right, the term '*Quake* Killer' may prove to be more than an idle boast.



Format:	PC
Publisher:	GT Interactive
Developer:	Epic MegaGames
Release:	June '97
Origin:	US

An interview with Epic MegaGames

Tucked away in a nondescript office complex in Rockville, Maryland on the east coast of the United States is the office of Epic MegaGames, the company responsible for *Unreal*. **Edge** dropped in on the *Unreal* team – marketing director **Mark Rein**, lead designer **James Schmalv**, co-designer **Cliff Bleszinski** and lead programmer **Tim Sweeney** – to probe the design process behind the game...

Edge: *Unreal* has been in development for three years. How did it start?
James Schmalv: I made the terrain first. A *Magic Carpet*-type terrain.
Mark Rein: Oh yeah! This is funny. The first thing we ever had was the outdoor terrain, and we haven't had it since! [Laughs.] But it is going back in the game. DMA is going to use one of its SGI terrain editors to design it.
JS: I was experimenting with a cavern-set, robot-type game, and I progressed to the continuous mesh technique that we have now, so I changed it from caverns to outdoors. By then I had these polygon creatures, like this dragon flying around – that was the first good polygon creature we made up. From there we added buildings, and Tim got into making this editor for doing the buildings. After that, it took off and just became, obviously, incredible. [Laughs.] So I started focusing on the creatures and the artwork, and Tim took over the engine. Because the editor was making it so easy to put together the structures, we had the tools to make the indoor areas, so there was less focus on the outdoor stuff. But like Mark said, we'll add that later.

'We could do *Unreal* as a [Nintendo 64] cartridge, but we don't want to, because we want to keep the amount of detail. We want to keep the levels intact'

Edge: Why a firstperson shooter?
JS: Well, it's changed a lot over the years. Once the editor started looking good, we knew we were going to set it mostly indoors, because it was so easy to make the indoor stuff look good...
MR: Well, the thing is, the indoor stuff is actually harder to do.
Edge: Why?
MR: Just because you see so much more detail. The engine has to move really fast, and you need detailed textures because you can get really close to stuff indoors. Outdoors, stuff is generally farther away.

On the other hand, there's a lot of limitations doing outdoor stuff that you just can't get around. Indoors, there's lots of ways to trick the user's eye. It's really amazing, but some of the most detailed scenes in *Unreal*, you're only looking at 50 to 80 polygons – the details are in the textures and the lighting. We're trying to get more and more polygons in there, but the details are really in the lighting.

To do *Unreal*'s lighting on a machine like the Nintendo 64 would require way more polygons, because a lot of these 3D accelerators light whole polygons, they don't light regions. What Tim does with these little 8x8 areas of the screen... I mean, each individual area of the screen that you can assign how much light there is, they're only eight pixels by eight pixels. That's really small, which is why the lighting is so smooth, because you can't really see the gradations in it. There's really only 64 levels of light.

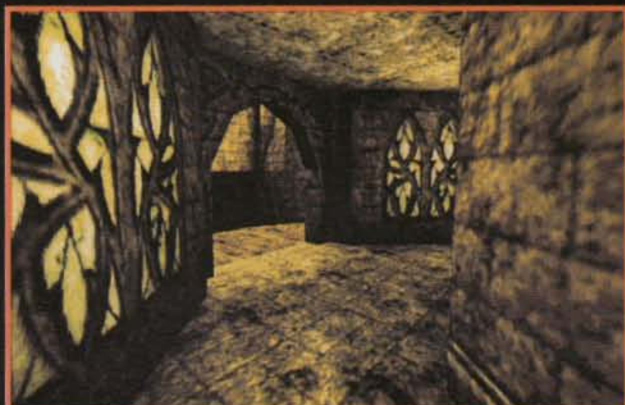


Epic Megagames' Mark Rein has just reason to look happy – just about everyone in the PC development community is taking about *Unreal*

Edge: Moving to the Nintendo 64 version...
MR: We still have to get Nintendo's approval on everything, but we're working on it. We're already coding the engine.
Edge: Given that you have a very large number of high-resolution textures in the game, will fitting them all into a cartridge be a problem?
MR: Well, we'll have to reduce the dimensions of the textures, so they'll be scaled down quite a bit, but with the bi-linear filtering, you can get away with much lower-resolution textures and it will look just as good. Plus, you're also playing at a much lower screen resolution. With the Nintendo 64 and other systems that have only a few megs of RAM, we'll probably have to make some compromises – limit the number of unique textures per level, maybe cut the levels up a bit – but for the most part I think folks will be surprised at how good *Unreal* looks on that system. The Nintendo 64's a heck of a powerful system, and since we're hoping to do *Unreal* for the 64DD drive, storage hopefully won't be a problem. We're going to have, well, I don't know exactly with compression, but many, many megs.
Edge: So *Unreal*'s not an N64 cart?
MR: I think we could do *Unreal* as a cart, but I don't think we want to do *Unreal* as a cart, because we want to keep the amount of detail. We want to keep the levels intact. There's a limit even with the disk, because you load each level's textures as you load the level, but we don't want to have the same look over and over again, and that's the problem with a cart. LucasArts can do *Shadows Of The Empire* now and sort of get away with it because there are very few games now, but later on when there's lots of games, you won't be able to.
Edge: Getting back to the PC, when did you first get excited about MMX?
MR: It's kind of funny. Intel had heard about *Unreal*, and they invited us to Portland to show it – like Microsoft, they support developers really well – and we showed it to their engineers and OEM people and marketing people...
JS: Back then the game consisted of just the outdoor terrain and the dragon...
MR: After the meeting, the Intel people came back in with a stack of non-disclosure agreements about MMX. They told us about it, because I don't think they actually had chips at the time – I think they've been working on it for about six years, so it's not something they just threw together – but they told us about it, and Tim was really excited because he knew immediately what it could do, and they seemed to feel that Tim was the kind of guy who could really make it shine. So before they even had a working version, they came and taught us what the instruction sets do. Tim picked that up right away. He wrote the code on paper the night after they came and had a fully working MMX version of the rendering code before we even had the chip! Several months later they sent us an emulator, which enabled a Pentium to run MMX code – speed-wise it wasn't frames per second, it was seconds per frame, but it let us test the code – and it worked. His code actually worked first time!



But MMX is serious technology. Intel told us right from the word go that every one of their chips is going to have MMX, and that's what really piqued our interest. See, that's the problem with, say, 3D accelerator cards. Direct3D isn't ready enough for prime time that you can just generically support it and everybody's card works well. But with MMX, there's no question about supporting it, because in five years, everyone who's got an Intel processor in their computer will have these instructions.





Some sections (top) look disturbingly similar to Raven's forthcoming *Hexen 2*. These winged creatures (above) aren't short of detail either

◀ **Edge:** How has 3D-card support been, then?

MR: At the end of last summer, we got a first-generation 3D card – and I don't want to name the vendor because it was first-gen and that's not really fair – but Tim coded a patch for it, just played around because he was intrigued by it, and in about eight hours he got *Unreal* to run on it. It had bi-linear filtering, so it looked good, and it ran at a constant 35fps, which was great until you added the lighting. The trouble was that in order to get the lighting to work the way we do it, you had to run every frame twice. Since the frame rate was constant, that means we were getting 17 frames per second. Which, you know, we just weren't going to let happen.

Edge: Why draw it twice?

Tim Sweeney: Well, every light can be dynamic, so you can have wild lights turning on and off or pulsing or whatever. And to get shadows, you have to draw it once for the textures and twice to get the lighting effects over it. If you compare it to *Quake*, it's a lot more sophisticated. You get a slight performance hit, but we made a conscious decision to do it that way because you get so much more detail. And the process works well in software, but when you run that through hardware, it just renders the whole thing again. By the time *Unreal* ships, I think there will be some really capable cards that might be fast enough, but right now it's not an issue.

JS: Yeah, because we're supporting Direct3D [D3D] at least, so if you have a card it will run on it. Really it's just a question of how much better that will run over software only.

TS: Well, D3D does the job. You know, some of these different cards have a bunch of cool features that D3D just doesn't access. It's a problem because what really counts is what people have, and unfortunately that's not clear. But at least D3D is good because it sets a standard.

JS: Maybe supporting some of them directly might be the thing to do…

MR: If the card vendors want to give us money to support them! [Laughs, leans into microphone.] If they want direct support and they want to pay for it, they can call me direct: Mark Rein, that's R-E-I-N!

Edge: Obviously, *Unreal* is going to be compared to *Quake*. What are you doing to beat it?

Cliff Bleszinski: I think if you think of *Quake* as a car, it's like a really good base model that runs really fast. With *Unreal*, we're hoping to give you air conditioning, power brakes, power steering, and a real sense of style that's lacking in some of those other games.

TS: We've got to come up with a game that's better and different. If people look at it and go, 'Hey, it's 20% better than *Quake*,' then we've failed to do anything significant. We've got to do things that distinguish *Unreal*. We've added morphing characters – imagine changing into some giant creature with lots of power, like a dragon. That adds a lot to gameplay.

Also, we're making the level editor available to the public, and it's very user-friendly. I think the one goal I have is to bring level editing into the mainstream. Id started the trend with *Doom* and *Quake* by making them hackable to the point where people could create their own editors, but they're not very easy to use. With *Unreal*, we could wind up selling half as many copies of the editor as of the game. That becomes especially important with Internet play, where people can create their own levels, write their own scripts for the puzzles, and create their own new, cool stuff. Seeing what other people can do is incredibly fun for a game developer.

Edge: Given that you're bringing level editing into the mainstream, with 10,000 monkeys hammering at 10,000 keyboards, aren't you worried that by the time you're working on a sequel, you'll have already been outdone?

TS: If the community is outdoing what we're doing, our sequel won't do that well, but we'll be selling so many editors and making so much money, we won't care!

JS: And if somebody's that good, we'll probably just hire them anyway!

MR: The other thing is, for the sequel, we'll certainly have new technologies, the next rev of the engine, a whole bunch of new features that can't be added through an editor for *Unreal 1*. But that's the challenge: create something new that people will want to play, and then create new stuff based on that technology.

Edge: So you see the sequel to *Unreal* differently to the way id saw *Doom II* or *Heretic II* – that is, not roughly the same engine with just new levels and new enemies?

CB: I think with this genre of game, in order for it to advance, you need to take a few risks. We're going to have fast, hot, 3D action, but we're going to have lots of people slow the game down and find ways to kill people in a creative way.

'We've got to have a game that's better and different. If people look at it and go, "Hey, it's 20% better than *Quake*," then we've failed to do anything significant'

JS: Look at how we use moving 3D brushes, for example. You can just imagine the different ways designers will come up with to manipulate those. *Quake* doesn't even have them, and that really gives a different feel to our game.

Edge: How does the gore level compare?

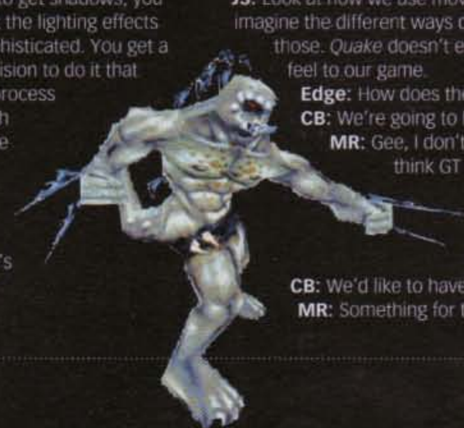
CB: We're going to have a lot of blood.

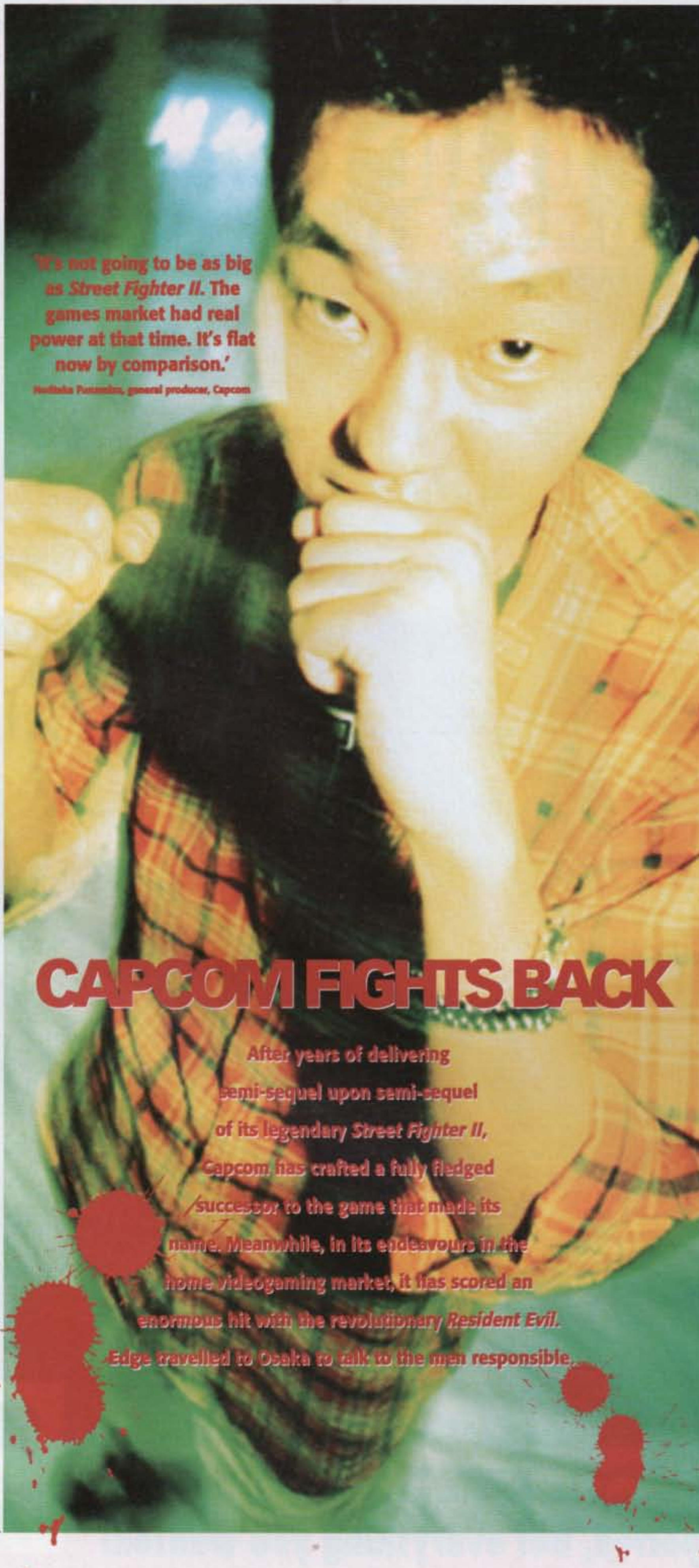
MR: Gee, I don't know… [Laughs.] How much does everyone think GT will allow?

JS: Some shocking stuff is in the game… And when the player dies we're going to have these *Virtua Fighter*-like spinning pans, watch them twitching and bleeding to death…

CB: We'd like to have a lot of blood flying everywhere.

MR: Something for the whole family…





'It's not going to be as big as *Street Fighter II*. The games market had real power at that time. It's flat now by comparison.'
Noritaka Funamizu, general producer, Capcom

CAPCOM FIGHTS BACK

After years of delivering semi-sequel upon semi-sequel of its legendary *Street Fighter II*, Capcom has crafted a fully fledged successor to the game that made its name. Meanwhile, in its endeavours in the home videogaming market, it has scored an enormous hit with the revolutionary *Resident Evil*. Edge travelled to Osaka to talk to the men responsible

Street Fighter III New Generation

It is six years since *Street Fighter II* first appeared, and in that time it has been subject to a barrage of improvements, conversions and updates, not to mention some extensive and quite blatant regurgitation. It is with open arms, therefore, that the games industry finally welcomes a true successor, *Street Fighter III*.

On a recent trip to Japan, **Edge** found itself in the privileged position of being one of the first non-Japanese magazines invited to play the near-complete game. And so, one fresh morning in December after taking the legendary bullet train from Tokyo to Osaka (a three-hour journey that hits the wallet to the tune of £200) and then making several shorter hops on the Osaka metro, two members of the **Edge** team, plus photographer, arrived at Capcom's hi-tech offices rather later than expected. Two hours later to be precise.

As luck would have it, the beat 'em up scientists were fully prepared for the fallibility of clueless westerners negotiating the Japanese rail networks, and had already condensed its scheduled three-hour agenda into a single hour – all that was available before **Edge**'s booked return dash to Tokyo. And, despite having violated the unspoken laws of Japanese business etiquette, **Edge** did manage to get to see what it had come for. And a lot more besides, as it turned out.

Unusually for a Japanese videogame company, Capcom has its coin-op and consumer development departments crammed together over two of its office block floors. Inside, there's a rough-and-ready sense of everyone sharing and feeding off each other's ideas, and no one seems to mind that a bunch of inquisitive journalists are wandering around pointing cameras at anything that moves on a screen. Across much of the floor space are *Street Fighter III* machines getting the final approval from game testers and designers, and strewn across the rows of cluttered desks are pre-production PCBs running newer games such as *Star Gladiator 2*.

At one point **Edge** is treated to a glimpse of an early fighting game running on Matsushita's M2 hardware – though there's not much to see at this stage, the hi-res display, running at 60fps, is promising. At an adjacent desk an engrossed employee is playing a 3D incarnation of *Ghosts 'n' Goblins* on a Nintendo 64 dev kit. This looks like the fruit of just a few weeks' work, with basic scenery and little in the way of gameplay, but it will be enough to drive the diehard Capcom fan over the edge.

Before **Edge** gets too carried away it is quickly reminded of the games it has specifically come to see – *Street Fighter III* and *Resident Evil 2*. The former represents the continuation of an unprecedented 2D









Capcom's development HQ sees game testers working on *SFIII* (above) lumped together with programmers, designers and artists in one melting pot

Street Fighter III **features ten characters in total: Ken, Ryu, Alex, Yun, Yang, Ibuki, Necro, Elena, Oro and Sean. They are a typically diverse bunch – for example, Ibuki is a young high-school student, while Oro is a 140-year-old hermit**

fighting game lineage while the latter sees Capcom steamrolling a path for itself in a bold new direction. Poles apart they may be, but they are unified by the traits that make Capcom games special – strong characters, instant playability and uncompromising but rewarding gameplay.

For some, the company's decision to keep the all-new *Street Fighter* in two dimensions will come as a disappointment. After all, the genesis of the 3D fighting game is already in its twilight period – especially now that third-generation polygon heavyweights *Virtua Fighter 3* and *Tekken 3* are commanding players' attention. But despite the success and innovations made in the 3D realm there are many fighting-game loyalists who maintain that the 2D fighter will always have the upper hand. And **Noritaka Funamizu** is one of them.

Funamizu-san is the general producer within Capcom's development division, and staunchly defends the company's decision to keep the *SF* series true its original form: 'We wanted to create a game that people will feel is an actual continuation of *Street Fighter II*, and in some ways we still feel that 3D is not really that suitable for head-to-head fighting games. To be frank with you, we don't really have the expertise here to display very high quality graphics in 3D but we do have the expertise to display probably some of the best graphics you'll ever see in 2D.'

'By using 2D it's possible to display what people think of as movement in a game – not try to replicate real life'

Despite this, Capcom must prepare itself for when *Street Fighter III* finally hits the streets. Given the success of the *VF* series, *Tekken* and the numerous 3D clones that have appeared in the last few years, there's an accepted, albeit unproven, wisdom in arcades that 3D *is* better than 2D. In fact, it's an argument that can be paralleled to the recurrent CD-versus-vinyl war in the music industry. In this case, while most people think that CD is better, music purists still champion the use of vinyl ▶



Fans of previous *SF* games will be pleased to see the most familiar element of the series – the Dragon Punch – retained in part three









Cramped, close-knit working conditions at Capcom HQ – a situation that will be familiar to developers worldwide

Alex (above), a character from the US, is strong with both punching and throwing techniques. Graphically, *SFIII* needs to be examined in detail for its enhancements to be appreciated. A 256-colour palette is most noticeable

because it can deliver a richer sound when played with the right kit. The analogy rings true when considering the extra immediacy and depth that a 2D fighter has over a polygon equivalent – traits that purists will appreciate. What lies at the heart of both arguments is a fear of the obsolete, and a natural optimism that newer *should* mean better. The bottom line is that many now regard 2D as old hat, and it's an obstacle that Capcom must be prepared for.

'We don't think 2D is becoming old fashioned,' says Funamizu-san. 'Even though our competitors use 3D, and even though they use motion capture to provide what they think are more human-like moves, we don't really know if striving for realism is what players want. By using 2D it's possible to display what people think of as movement as in a game – not try and replicate what you'd see in normal, everyday life. Besides, in 2D, we can do movements within the game that are cool and are not really possible in 3D.'

As previously reported, *Street Fighter III* is the second game to run on the company's latest 2D board, the CPSIII (*WarZard* was the first title to use it). This 32bit board uses both CD-ROM and ROM cartridges to store data, but its biggest advantage over CPSII is its ability to display 256 colours per sprite cell, compared to just 16 colours in the previous hardware, giving a noticeably higher level of detail in the characters and parallax backdrops. CPSIII also includes a chip to handle the compression of data (thus saving on ROM costs) – an important point in *SFIII*, whose animation data stacks up to be roughly four times the size of that of the *Street Fighter Zero* games.

To the discerning eye, *Street Fighter III* (subtitled *The New Generation*) is likely to leave even the most devout *Street Fighter* fan a little disappointed. The most immediate graphical improvement is an increase in character detail, although only a minor progression from the *Street Fighter Zero* series. Backgrounds are improved, but still rely on steadfastly 2D layers of parallax rather than 3D effects, and even the animation, though advanced from *Street Fighter Zero*, falls a little short of naturally high expectations.

Only two of *SFII*'s original characters, Ken and Ryu, appear in *SFIII*, the other eight having been created specially for the game. Unlike the most advanced fighting systems of the *SF* legend, *Street Fighter Zero*, *SFIII* includes a fighting selection system entitled 'Super Arts' as well as advanced blocking techniques. Super Arts effectively allows the selection of a choice of three special attacks that replace the Super Combo from previous games. Super Arts are selected



Capcom's 3D spin-off, ***Street Fighter EX***, will hit UK arcades soon

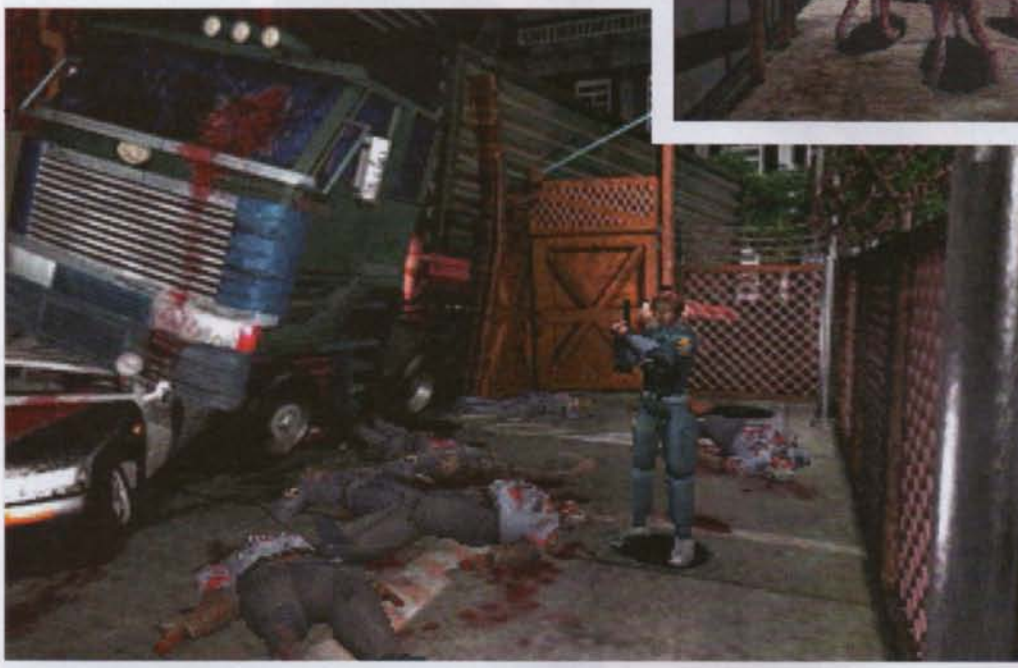


Funamizu-san on 3D graphics: 'We'll try to be at the same level but won't try to beat Namco and Sega because we don't really need to'











***Biohazard 2* retains the dark tones evident in the original, and further demonstrates Capcom's growing expertise in the field of 3D rendering**



after choosing a character and before engaging in combat, and have more devastating effects on the enemy. Blocking also differs from previous *SF* games in that any type of strike can be blocked, although it's a risky business that requires split-second timing.

In gameplay terms there has never been any doubt that Capcom is a masterful designer. Its techniques and styles haven't so much been adapted by its numerous rivals as blatantly copied, and while the vast number of beat 'em ups that have swamped the market in recent years has no doubt diluted what was once a potent formula, few have ever attained the degree of control and depth of play as Capcom's titles. Funamizu-san reflects upon this: 'Basically, even though everyone else copied the *Street Fighter* series they didn't copy the gameplay perfectly. They copied actual movements, that's all. They haven't copied the actual concept well at all and that's something we think about every day here. I think this is what players will be most reminded of when they play *Street Fighter III*.' However, when quizzed over the potential for *Street Fighter III* to be as big as its precursor, he is understandably modest: 'No, it's not going to be as big as *Street Fighter II*. The games market had real power at that time, it's flat now by comparison.'



Every monster in *Biohazard 2* appears to be beefed up, and it's now a common instance to find yourself attacked by more than one enemy

Having so many resources

invested in the development of fighting games is a situation Capcom has found itself in mostly out of economic necessity – in the fickle arcade market it's simply too risky to develop games in genres that are less than sure-fire bets. Which is a shame given just how distinctive some of Capcom's earlier efforts were. To Funamizu-san this can be summed up by one thing: money. 'To create new games we need a lot of development resources and fighting games are probably the easiest way to make a lot of money. Action games [such as *Strider* and *Ghouls 'n' Ghosts*] take a long time to make and when their popularity started to wane a few years back ▶







***Biohazard 2* offers two characters for selection – Leon Scott Kennedy and Elsa Walker, a pair of young, wet-behind-the-ears S.T.A.R. recruits**



Though it's possible to change into other items of clothing throughout the game, a bullet-proof jacket isn't going to prove much help at times like this

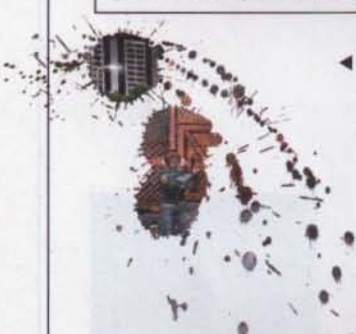








Weapons have increased in number since the first game – a necessity because different enemies have different weaknesses



we ended up losing money. In the next two or three years we will probably go back to developing more of these kind of games, though.'

One kind of game Capcom has no plans to abandon, though, is the arcade adventure, and the phenomenal success of *Resident Evil 2* (or *Biohazard*, as it is known in Japan) will be a comforting reminder to the company that risks *do* pay off. **Shinji Mikami** is the man behind the highly anticipated sequel and he proudly introduces the game to **Edge** just as one of the its designers is dealing with a rather angry crocodile in a murky sewer. This is just one of a multitude of stunning set pieces that Capcom has engineered into a game that has a playing area 50% larger than the original and replete with some amazing enhancements. 'The game system is basically going to remain the same,' explains Mikami-san, 'but there are now more zombies on-screen at once and some have very nasty moves. We're also trying hard to accentuate effects that will scare players, such as when the dog jumped through the window in the first game.'

The PlayStation is not the only platform suited to such gruesome gaming, though. A Saturn conversion of the original is well into development (and unsurprisingly looks identical to its forefather) but it is perhaps the imminent PC version that will attract the most attention. Running on VideoLogic's PowerVR chipset (and supposedly being an 'extreme' conversion using all the features of the 3D accelerator), PC *Resident Evil* features hi-res characters sporting an incredible level of detail and, despite some rough backdrops, has some minor improvements such as new weapons, a modified scenario and a full-colour intro.

While rather shorter that it would have liked, **Edge**'s brief rendezvous with Capcom was an eye-opener in many respects, revealing an open and diverse approach to videogame development, surprisingly unfettered by the traditional cloaked levels of Japanese secrecy. As the 60 minutes draws to a close there is just time to nab a quick go on the *San Francisco Rush* coin-op that occupies the main reception area, while **Edge**'s photographer coaxes a perturbed *SFIII* producer into 'punching' the camera for visual effect: 'Come on, son, give it loads... No, not like that, like this... And try and look hard...', at which point a taxi pulls up, farewells are exchanged, and a group of dishevelled journalists dive in, leaving one distressed game developer breathing a well-deserved sigh of relief... **E**





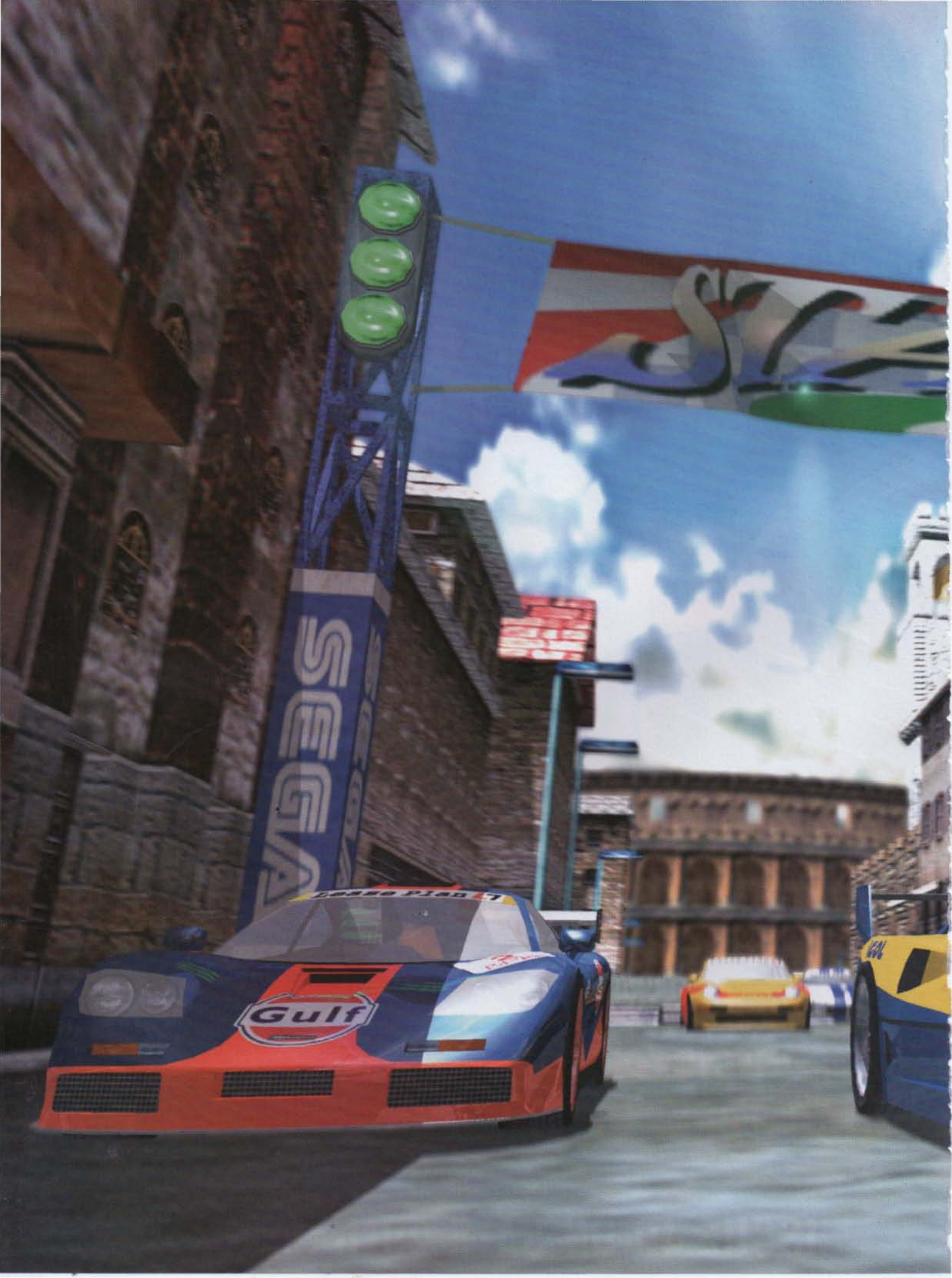


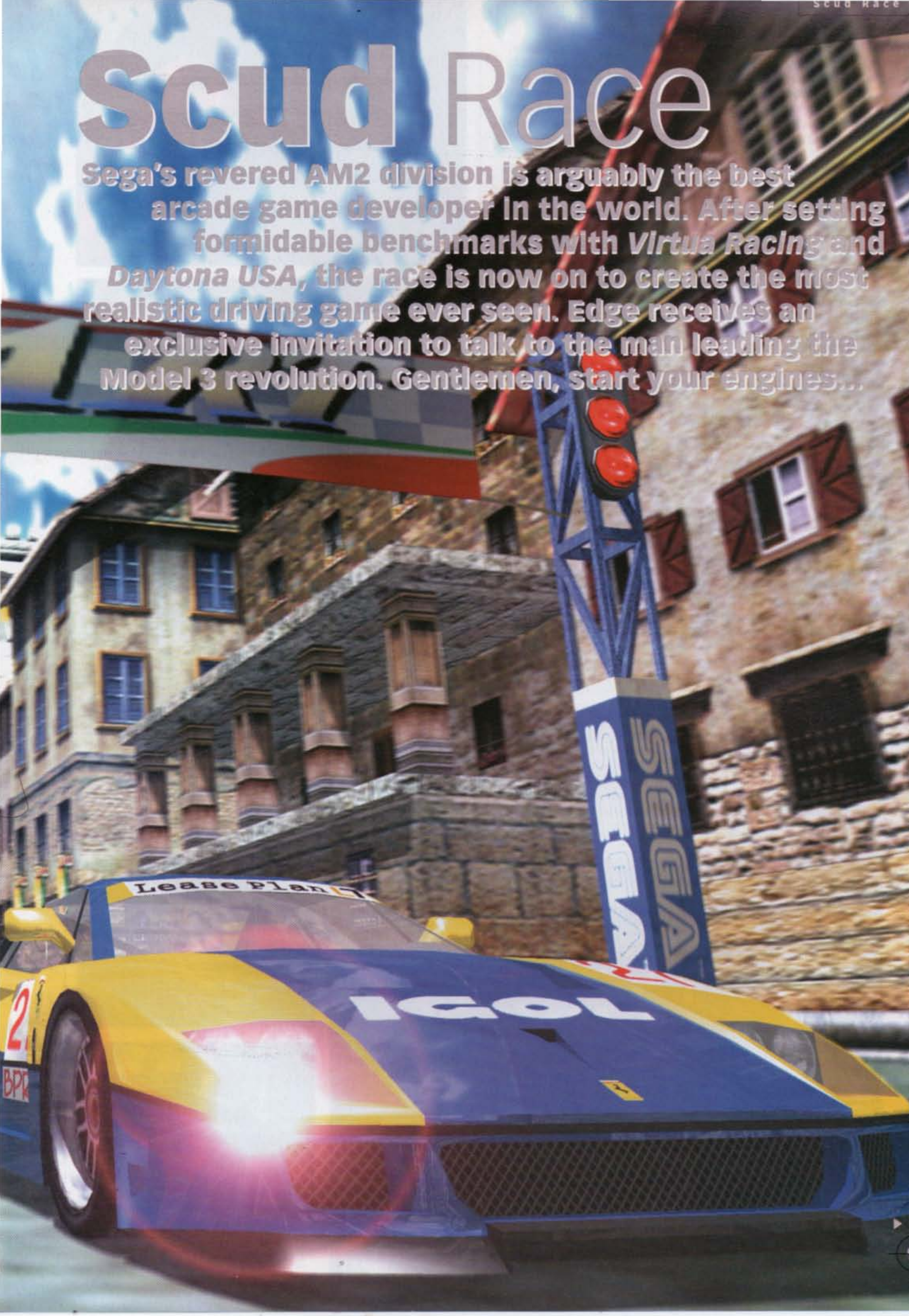
Zombies reach out from within the confines of the police station's cells (above). A rather obscure view of the action (above centre)



Saturn *Biohazard* (above), PowerVR version (right)




SEGA
Gulf



Scud Race

Sega's revered AM2 division is arguably the best arcade game developer in the world. After setting formidable benchmarks with *Virtua Racing* and *Daytona USA*, the race is now on to create the most realistic driving game ever seen. Edge receives an exclusive invitation to talk to the man leading the Model 3 revolution. Gentlemen, start your engines...



Scud Race director Toshihiro Nagoshi was determined to create a racing game a generational leap beyond the acclaimed *Daytona USA*

There's nothing like a bit of internal rivalry to help fuel the creative fires. Sega's elite AM2 division, responsible for both *Daytona USA* and the *Virtua Fighter* series, is currently leading stablemates AM Annex in the dash to create the next generation of racing games based on the powerful Model 3 arcade board. As hinted in **E**37, Tetsuya Mizuguchi's AM Annex division, creators of the recent *Sega Touring Car Championship*, is currently working on a Model 3-powered follow-up to coin-op classic, *Sega Rally*. But it will be AM2's incredible looking *Scud Race* that will be first out of the blocks, expected to appear in Japanese arcades by the time you read this.

Toshihiro Nagoshi and his team started work on the project 12 months ago and *Scud Race* was due to be the first Model 3 game to showcase the new board, ahead of even *Virtua Fighter 3*. Market forces (ie, the phenomenal success of *VF2*) conspired against them, and only now has the project seen the light of day. When the team was initially announced, it was assumed that what has turned out to be *Scud Race* was originally intended to be *Daytona 2*. Nagoshi-san is keen to clear the air: '*Scud Race* is not *Daytona 2*. The development team is the same, and so many believed that we would automatically be doing the sequel to *Daytona*. We wanted to change the team in order to ensure a different kind of game, but we never did. In the end, we needn't have worried, because we've succeeded in producing something with a completely different look.'

'DAYTONA WAS BASED ON AN AMERCIAN SPORT. I WANTED TO MAKE A GAME THAT WOULD BE ACCEPTED WORLDWIDE'

That new look owes much to the advanced capabilities of the Model 3 technology, which boasts two Lockheed Martin R3D/Pro-1000 custom graphics chips, each capable of rendering over 750,000 polygons per second. Consequently, Model 3 is at least three times as powerful as Model 2 and adds Gouraud shading, giving the graphics a smoother, less angular appearance. 'I can't tell you how many polygons we've used for each of the cars,' says Nagoshi-san, 'but suffice it to say that if we made, say, the Ferrari from *Scud Race* on the Model 1 board (used for *Virtua Racing*), we would use about half the entire capacity of the board. If we displayed two *Scud Race* cars, we'd have no more polygons left.'

A bit of maths reveals a startling transformation: the *Scud Race* car models consist of roughly 3,000 polygons each (Sega's Model 1 board was capable of 180,000 polygons per second), which is well over three times the number used for the cars in the original *Daytona USA*. Reflections roll across windscreens and sunlight glints off paint work. The wheels on the cars are almost perfectly round, and the glass in the windows is fully transparent, revealing the drivers within. The hardware advantages of the board are plain to see, but new software developments incorporating tricks gleaned from the creation of *VF3* have also played a significant role in the final, astonishingly fast, appearance of *Scud Race*. With as many as 40 cars on the track, the team has had to improve the 3D engine that powers the game. Nagoshi-san believes experience is the key: 'There are about three times more cars on the track than *Daytona*. The hardware is, of course, important, but equally important is the software – what is behind the polygons. For example, in order to avoid drawing excess geometry, we have streamlined our software. Sega's programmers acquired a lot of know-how with the previous CG boards. I believe that software is as important as hardware for the speed of the game.'

Scud Race is different to *Daytona* in almost every respect. Nagoshi-san is keen to stress that, from the outset, his vision for the first Model 3 racing game was a global one, inspired by the supercars of the world, such as the Ferrari F40, the Maclaren F1 and the Dodge Viper. '*Daytona* was based on an American sport, with American cars. I wanted to make a game that would be accepted worldwide,' explains Nagoshi-san. 'I needed some cars, therefore, that everyone would know: Porsche, Ferrarri, etc, but it was hard work. I went to Italy to the Ferrari factory in Modena to see the real cars and to deal



The bonnet-cam and rock formations (below) are reminiscent of precursor *Daytona USA*. The car geometry (right) is the most complex yet seen in a coin-op, with an estimated 3,000 polygons in use















The airport stage bears a striking resemblence to Haneda airport, which is only a stone's throw away from the Sega development headquarters



directly with the manufacturers, but that didn't work out as well as I had expected. Getting the approval of such huge manufacturers was difficult.'

One would guess that Sega's considerable financial resources clinched the deal. Whatever went on behind the scenes, the end more than justifies the means. *Daytona*'s cars all handled the same way, and with *Scud Race*, Sega is putting the emphasis on the driving experience, not just the race. Again, moving away from the confines of *Daytona* was an important issue. 'I didn't want *Scud Race* to be a circuit game, as I feel that they are visually boring.

'I wanted to make a game that was visually attractive and I felt that we needed to make some courses that would have character and be easily identified by the public – to avoid over-complicating things. For example, we decided to make a course influenced by the 'Indiana Jones' movies – something that can be identified immediately by the player, with relatively simple imagery. Simple ideas associated with the high-end Model 3 board are the basics of *Scud Race*.'

Simple is not a word you'd immediately associate with such an advanced piece of programming, but Nagoshi-san is keen to ensure that the technical marvels afforded by the Model 3 board do not overcome his basic principle: to create an accessible game. 'The feeling of actually driving is very strong,' he insists. 'I didn't want to make a difficult racing game. It may sound strange, but I'm very bad at playing games. I used to spend a lot of money in arcades, just to see the end-game sequences and I know how bad players can feel if the game is too hard, too early. So when I came to design *Scud Race*, I kept this in

'YU SUZUKI RECOMMENDED THAT I DO SOME SOUND SAMPLING ON THE FUJI FREEWAY, WHICH I DID. HE'S VERY SUPPORTIVE'

mind and tried to make a game that could be enjoyed by beginners.' Experienced gamers shouldn't lose out, however, if AM2's previous efforts are anything to go by. *Virtua Fighter* was instantly accessible, requiring only a few moves to progress through the initial stages, but weeks of constant playing to master. *Scud Race*, for all its initial simplicity, will no doubt turn out to be as rich a driving experience as the original *Daytona USA*, which many regarded as superior to *Ridge Racer* thanks to its extended learning curve. *Scud Race* features four different courses, two beginner (day and night), one intermediate and an expert course. Realistic handling will be crucial to the game's success, ▶



Nagoshi-san (left) studied film at university, and his eye for detail has not been wasted at Sega which he describes as 'much more fun than movies'













The Model 3 board has been pushed to produce some of the most visually striking race sequences ever seen. The lighting effects, such as realtime reflections and lens flare, add to the realism. Sega's AM4 team designed the cabinet, which makes use of advanced hydraulics



and for that, Nagoshi-san had a few tips from **Yu Suzuki**. 'When I joined Sega, Yu Suzuki had made some outstanding racing games,' says Nagoshi-san. 'He made the *Virtua Fighter* series a success, but he still prefers making racing games. We are different, our interests and views are different, but I had some advice from Yu Suzuki on the drift handling. For *Daytona*, the handling was a bit heavy. With *Scud Race*, when you turn, the handling becomes steadily heavier, but smoothly. When entering a drift, the tail will slide slowly and you'll feel the power of the engine. He also recommended that I do some sampling on the Fuji freeway, which I did. He's very supportive.'

Supportive, but not actually on the *Scud Race* team, which will come as a surprise to many. It's too early to speculate, but Suzuki may well be in the advanced stages of creating *Daytona 2*, again for the Model 3 board. Nagoshi-san is tight-lipped about that, eager instead to focus attention instead on the innovative cabinet design, courtesy of Sega's AM4 division. The hydraulics give the seat a life of its own, recreating the feel of power-sliding around corners, vibrating when the car hits the curb (or a competitor), and featuring a bass-speaker system to simulate the feeling of sitting right on top of a 300bhp engine. At the moment, there are only plans for twoplayer and fourplayer link-ups, such is the cost of combining such an advanced cabinet with the expensive Model 3 board. The code is there, however, and it would be possible to link eight cabinets, but the cost of such a system would make it a rare sight indeed in all but the major theme parks.

By now, Toshihiro Nagoshi and his team could well have started work on its next project, perhaps helping Yu Suzuki with *Daytona 2* or designing characters for the next incarnation of *Virtua Fighter*, as Nagoshi-san did with the original – such is the spirit of co-operation at AM2. Nagoshi-san may well oversee the Saturn conversion of *Scud Race* (which is likely to use the Saturn upgrade cartridge planned for *VF3*). There are limits, though. When asked who his team regards as their biggest competitor, he replies, smiling, 'AM Annex.'

It is perhaps a testament to Sega's coin-op supremacy that the only competition the teams worry about is that from each other – a friendly rivalry that has kept AM2 at the pinnacle of coin-op design since it made its first leap ahead of the competition with the seminal *Out Run* in 1986.

With *Scud Race* the team has raised the bar once again, stealing a march not only on its stablemates, but arch rivals Namco, which may find itself in the unenviable position of runner-up in the race for the next generation of driving games.









Cars available include the Ferrari F40, the Porsche Turbo, the Maclaren F1 and American gas-guzzler, the Dodge Viper. Each vehicle has its own, unique handling characteristics

The year gaming grew up

As 1997 continues apace,

Edge reflects on the year that saw videogaming come of age,

and looks forward to 12 months

that will see it mature beyond recognition

edge logo

magazine 96/97

Though there is rarely a quiet year in the videogame industry, 1996 was hectic by any standards. The PlayStation and Saturn continued their 32bit battle, the N64 finally pounced in June, and Matsushita started to talk about its plans for M2 – so far the only threat to Nintendo's dominance of the high-end sector.

In terms of software, virtually every machine boasted a wealth of quality titles to entice consumers. *Super Mario 64*, of course, stood out as the shining example of just how far videogaming technology has come. *Civilisation 2* and *Red Alert* contributed equally to the PC's growing stature as a games machine and PlayStation titles *Resident Evil* and *Tomb Raider* both surprised gamers with their depth and sheer excellence.

Sega, meanwhile, continued to deliver excellent conversions from its AM departments, culminating in *Virtua Cop 2*. The game unfortunately coincided with gun control debates in the British press and, subsequently, parliament. Videogames once more came under the beady eye of right-wing politicians and, though a full-scale public outcry failed to materialise, the issue of game violence continued to bubble under other parliamentary concerns.

As **Edge** pushes further into 1997, it ponders 12 past months of exhilirating and sometimes tumultuous happenings in the videogames world...



After a convoluted rollercoaster ride of missed launched dates and scotched rumours, the Nintendo 64 finally arrived in Japan on the June 23, 1996. 250,000 found their way into gamers' homes on the first day of release



Event of the year: The Nintendo 64 launch

After months of frustrating delays and about turns, Nintendo's ground-breaking 64bit console finally received its Japanese launch on the June 23, 1996. One look at *Super Mario 64* confirmed the hopes of gamers worldwide – this was a genuinely revolutionary piece of hardware capable of jolting the industry from its seemingly inevitable move toward CD-based technology. Although shops did not see the gargantuan queues associated with the launch of the SNES, 250,000 N64s were sold on the first day of release. It has since made similar waves in the US.

The world was certainly kept waiting long enough for the machine. Rumours of its existence first started circulating amongst Japanese mags in 1993, and an official announcement soon followed. Yes, a console was in development and, yes, it would be employing Silicon Graphics hardware. From this point on, Nintendo played an extremely lengthy game of cat and mouse with the world's videogaming press, announcing launch dates, cancelling them and rescheduling time and time again. Throughout this period, technical specifications and glimpses of software trickled out, but Nintendo was resolutely giving very little away.

This is probably just as well considering the unreliability of the information that did surface. Comically, the coin-op incarnations of *Killer Instinct* and *Cruis'n USA* were originally held up as examples of what the N64 was capable of. Both titles have, of course, been converted to the console and have failed to impress gamers.

Even the name of the machine went through several changes: Nintendo started off with Project Reality, flirted for a while with Ultra 64 and finally settled on the simple N64 monicker.

Predictably, the press reacted with cynicism to this policy of silence interspersed with misinformation. There were concerns about the limited storage capacity of cartridges, about competition from well-established 32bit consoles, about Nintendo chairman Hiroshi Yamauchi's 'Dream Team' philosophy, and the time it seemed to be taking to get games up to alpha stage. All these worries came to a head at Shoshinkai '95 where ten playable demos were withdrawn from the show at the last minute. Only one and a half games were made available to play: *Mario 64* and *Kirby Bowl 64*. Had Nintendo lost its way? The world held its breath...

A year-and-a-half later the cynicism has all but dissipated. The N64 has sold amazingly well in both Japan and the US, despite the strong user base of 32bit consoles, and launch software has been impressive, to say the least. What became abundantly clear during 1996 was that the N64 boasts the perfect combination of two essential factors: technological supremacy and brilliant game design talent. Of course, its future is far from certain: thirdparty games have so far proved lacklustre, and there are still worries that the proposed 64DD and RAM cart peripherals may dilute the strength of the base unit.

The N64 boasts the perfect combination of two essential factors: technological supremacy and design talent

However, with titles like *Zelda 64* and *Star Fox 64* on the way, 1997 is set to be another astounding year for Nintendo – a company that will be expecting the attention...

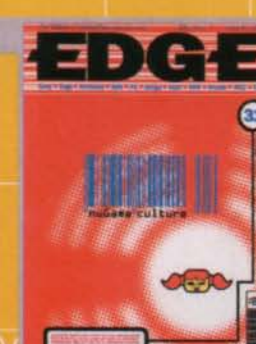
1996 in view...

Rumours abounded in **January** of a possible link between Matsushita, the 3DO-developed M2 technology and Sega. The speculators reasoned that, with the Saturn underperforming outside Japan and Model 3 arcade board development proving troublesome, Sega would ditch its own hardware development, adopt M2 and be free to concentrate on software.

The drip-feed of information on the Nintendo 64's bulky drive, the 64DD, continued with NCL revealing a few more nuggets at a developer's conference in Kyoto. And, just as one console developer's star rose even higher, another's fell even lower as news came to light revealing the impending implosion of Atari. Its US president Ted Hoff resigned, Jeff Minter cut his links with the company and thirdparty developers reported a breakdown in communications. Worse news was to follow for the fallen giant...

February saw Sega lording it at the Arcade Operator's Union show in Tokyo when AM2 introduced demos the Model 3 board, which promised three times the polygons of its predecessor, in the form of Virtua Fighter 3. Four lucky Japanese gamers were allowed to try the two-character playable demo – everyone else had to make do with watching a rolling demo, which drew an enormous crowd.

Nintendo rumour of the month – and of every month, it seemed – was of more delays in the launch of the N64 due to a shortage of semiconductors from suppliers NEC. More leaks



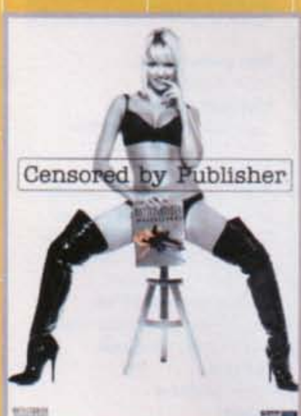
Controversies of the year

Videogaming's perennial scandal – that it features too much sex and violence – took a different spin this year. Instead of the Mary Whitehouse brigade triggering a tabloid-tormenting moral panic, it was the industry itself that took the moral high ground. Several magazine publishers, most notably **Edge**'s own Future Publishing, refused to print game ads that it deemed offensive. Gametek's *Battlecruiser 3000* was perhaps the most notorious, featuring a scantily-clad Joanne Guest using a box to cover her dignity. (If indeed that's the correct term to use in this context.)

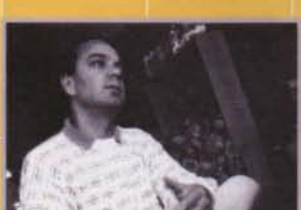
Hasbro's 'Fascism rules' tag line in its ad for *Risk* was another offender, as was Virgin's *Command & Conquer: Red Alert* 'Germans' ad, which followed in the footsteps of a couple of the *Daily Mirror*'s cover pages during Euro '96. The prize for poorest taste ad must go to Studio 3DO, though, whose astonishingly tacky campaign featured photography of a bull's knackers. Studio 3DO's parent company, The 3DO Company, also deserves a prize for the most ill-conceived ad campaign. Its feather-shedding 'Don't buy a Dodo, buy 3DO' ad had precisely the opposite effect to what was intended as it served only to highlight the soon-to-be extinct nature of Trip's ugly duckling.

A couple of major rifts threatened some key alliances between software creators and hardware manufacturers in '96. The confusion between Psygnosis and Sony – first the Liverpool-based developer was for sale, citing musical differences, then it wasn't – was dwarfed by Square's defection from Nintendo to Sony. The N64 will surely miss the millions of *Final Fantasy* fans in Japan and the loss of Square again raises questions over Nintendo's relationships with thirdparty outfits.

Other lesser ripples in the videogaming world included a spate of supergroup-like tiffs and splits from some of the leading creatives in the business. Sid Meier left MicroProse, the company he co-founded in 1982, Peter Molyneux said he'd be leaving Bullfrog, *Doom* designer John Romero quit Id and *Wing Commander* creator Chris Roberts walked out of Origin. Whether it was a case of too much pressure from the corporates or simply a need to start afresh, these moves made a definite mark in '96.







'Shock' ads (above) and major players like Sid Meier (left) leaving their old companies hit the videogame press headlines

David Perry (Shiny)



Best games of '96:
WaveRace 64 seems to be welded to my cartridge slot. *Tekken 2* cost me a joypad. *F1* was cool too.
Highlight of the year:
When I gave my speech at the Develop conference and everyone was still awake when the lights came back on. Plus, when I flew a helicopter between the skyscrapers in downtown LA and didn't get shot down.
The low point:
Due to a clerical error or something, it seems that Santa lost my Christmas list.
Best movies and albums of the year:
'ID4' had the best hype, 'The Rock' had the best action. Alanis Morrissette and The Jerky Boys get played back to back.
Game that has most spectacularly failed to live up to its hype:
Cruis'n USA on the N64 sucks. Arcade machine my ass!
Biggest surprise of '96:
Nintendo shipping *Cruis'n USA*. Also that www.shiny.com is almost finished and that **Edge** hasn't done an *MDK* cover yet!
Winners of the year:
Trip Hawkins for the M2 cash. The beers are on him.
Losers:
The dying away of *Mortal Kombat* has ripped the heart out of Acclaim's stock price. They've lost over $200m dollars. I think we should all help to look for it.
Predictions for the biggest event in 1997:
For our team it will be glorious sleep after working so hard for so long on *MDK*.
Plans for '97:
January – give away a free teaser to *MDK* on the Net. March/April – *MDK* released. Summer – *Wild 9s* TV show and toyline. The rest is secret...
Favourite Spice Girl:
Princess Diana

David Jones (DMA Design)



Best games of '96:
C&C (in multiplayer mode) and *Tetris Attack*.
Highlight of the year:
The release of the N64.
The low point:
No win by DMA Design's Lottery syndicate.
Best movies and albums of the year:
'Seven', 'The Rock', 'Jagged Little Pill' and 'Hits of the 80s'.
Game that most spectacularly failed to live up to its hype:
Z.
Biggest surprise of '96:
The DMA and Epic Megagames Partnership.
Winners of the year:
Damon Hill and Eddie Izzard.
Losers:
Hugh Grant.
Predictions for the biggest event in 1997:
Grand Theft Auto. Release of. Banning Of. Burning Of. Court case(s) pertaining to.
Plans for '97:
Global domination and cash.
Favourite Spice Girl:
Victoria.

DMA's irrepressible writer and PR manager, Brian Baglow, felt compelled to answer the questions too...

Highlight of the year:
Chatting up one of the Lara Croft models at ECTS.
The low point:
Being arrested for stalking Lara Croft model at ECTS.
Game that most spectacularly failed to live up to its hype:
Broken Sword (I fell asleep and drooled into my keyboard).
Biggest surprise of '96:
Guest starring on the 'The X-Files' when I happened to be in Vancouver on a strictly routine business trip.
Winners of the year:
DMA Design's strategic alliance with the CIA.



from NCL's Kyoto HQ spoke of plans for a pocket-sized Game Boy, and two colour portables, one 16bit and one 32bit.

And NEC and VideoLogic showed the way forward for PCs when they unveiled their PowerVR 3D accelerator which ran a specially created 640x480 demo of *Rave Racer* at 30 fps.

Though both Sega and Matsushita denied it, it came to light in **March** that the arcade king took delivery of M2 prototypes and was impressed with the technology. But not that impressed. And Matsushita wasn't impressed when Sega revealed that it wanted to be the sole M2 brand. Their secret talks collapsed.

It was a case of lies, damn lies and statistics from Sony and Sega as both companies made inflated claims about their sales in just about every territory. It still seemed that the PlayStation was outselling the Sega's machine, but not by as much as was thought. For precise figures it was a case of pin the tail on the spokesman.

No rumours of Nintendo delays this month. Instead, NCL announced there would be a 'slight delay' as it waited for more chips to arrive and for Miyamoto-san to fine-tune his games. The launch troubles only compounded the worries of gamers who feared the N64 would deliver too little, too late...

Consoles took a back seat in **April** as PC developments made all the news. Intel's MMX was hailed as

Winners of the year

Were there any clear winners in the videogames world this year? On the hardware front, the PlayStation consolidated its lead over the Saturn in the 32bit market with greater sales than its rival – although just how many the two manufacturers really sold was never clear as both would consistently provide sell-in figures (the numbers actually supplied to shops) instead of more accurate sell-through figures (how many were actually bought by punters). The PlayStation also delivered more games than Sega's machine and, despite the Saturn's high-profile arcade conversions, the PlayStation also became the clubber's choice. Sony's shrewd marketing in the UK led to banks of PlayStations being installed in clubs the length and breadth of the country.

Nintendo's glory came as much from software as hardware this year. The undoubted potential of the N64 was demonstrated by *Super Mario 64*, *PilotWings 64* and *Wave Race 64*, and some serious launch sales figures were posted in both Japan and the US. However, for many the real test for N64 is whether thirdparty software can match the quality of Nintendo's in-house titles.

The other software winners included British developer Core, which came from left field and had a major critical and commercial success in *Tomb Raider*, and Capcom, which proved there was life after 2D with *Resident Evil*, and unveiled an impressive roster of new titles towards the year's end, including *Resident Evil 2*.

And, of course, the PC's inexorable conquest of the known world continued, with accelerator cards becoming the latest weapon in its already formidable arsenal. Can Steve Jobs grab some glory back for Apple next year? Watch this space.

The PC's inexorable conquest of the known world continued, with accelerator cards becoming its latest weapon







Nintendo conquered the world of videogames last year with a superior piece of hardware and some marvellous games

Dominik Diamond



Best game of '96:
Crash Bandicoot.
Highlight of the year:
The possibility of the Bosnian conflict reaching an end.
The low point:
The British government messing up the N. Ireland peace process
Best movie and album of '96:
'Executive Decision'; 'Everything Must Go' by the Manics.
Biggest surprise of '96:
That people thought Kula Shaker weren't shite. Lift muzak!
Winners:
Steven Redgrave.
Losers:
'Bad Influence'!
Biggest event of '97:
My stomach, if it keeps growing the way it is at the moment.
Plans for '97:
Getting married. Unfortunately, I can't see a life beyond that.
Favourite Spice Girl:
The sporty one for having the guts to be ugly.







Sony did not let its relative inexperience in the videogame market get in the way of a highly successful year. The PlayStation beat off the challenge of Sega's Saturn to become the world's most favourite 32bit console

the most important chip upgrade since the 80386. The improved Pentium MMX and Pentium Pro MMX chips promised 57 new instructions, allowing for markedly more efficient code.

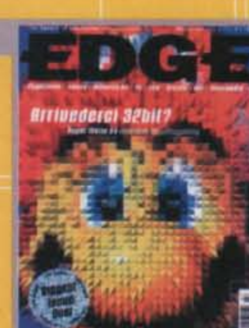
3Dfx Interactive released its impressive 3D card, only to find no less than seven other companies vying for a chunk of the lucrative PC graphics acceleration market. Videologic, 3D Labs, nVidia, S3, ATI, Yamaha and Rendition all fancied their chances of becoming the industry standard for the massive PC market.

Spring ECTS bowed out with a whimper as everyone saved their bangs for E3, and only Sony made any real effort.

May 16-18 saw the second Electronic Entertainment Expo take over the LA convention centre. The day before, Nintendo held a press conference where a modest Shigeru Miyamoto demonstrated *Super Mario 64*, which astounded all who saw what ranks as one of his finest creations to date.

Sony attempted to dampen Nintendo's fireworks when it announced a PlayStation price drop to $200 – undercutting the N64's price tag by $49. Sega then cut the price of the Saturn to the same level Sony, leaving Nintendo with the most expensive games system. While the two more established systems managed to beat Nintendo in terms of price, they could offer only quantity in software terms compared to Nintendo's quality.

Sega ventured into the PC market with its new Sega Entertainment division, set up to port arcade and Saturn titles



Losers of the year

Things started to go wrong some time before last year, but it was 1996 that finally saw the Atari Corporation crumble into dust. Rest assured the videogaming giant did not go gently into that good night. The Jaguar console went through several price reductions before ending up at the sorrowful price point of $49 in the US. To everyone else in the world, it reeked of desperate warehouse clearing. According to Atari, it was an attempt to secure a mass market for the beleaguered machine.

Even the failure of the Jaguar didn't shut Atari down. In early '96 Ted Hoff, the President of North American operations, suggested pooling the company's internal talent together and focusing on PC software development. He was widely ignored by Atari executives, themselves an endangered species: many had already jumped ship or been sacked. Hoff tendered his own resignation a few weeks later.

With Hoff gone and the Jaguar staggering about looking for somewhere to lie down and die, things looked especially bleak for Atari in March. However, the official company line was amazingly still buoyant and optimistic. August Liguori, the company's chief financial officer, claimed, 'We are not going out of the videogame industry. We have $50m and we're going to continue making strategic investments in developing and publishing for all formats.'



Last year Atari's Jaguar joined other big cats on the endangered species list. It later became extinct after being cleared at US$49

Atari's demise has been echoed by The 3DO Company. Both released hardware that lost out to Japanese rivals

Meanwhile, huge staff redundancies were being made behind the scenes and rumour has it that Atari was even told to vacate its offices. Finally, the whole farcical situation was resolved later in the year when Sam Tramiel spent his infamous $50m buying into a company making harddrives.

Recently, Atari's demise has been echoed, albeit to a lesser extent, by The 3DO Company. Both released hardware that lost out to Japanese rivals and both turned to software development when their respective consoles died miserable deaths. The main difference is, Atari once enjoyed a legendary status – it was fundamental in the birth of the videogame industry and released some of the most playable games ever. There is an important lesson here for contemporary game giants: legendary status does not necessarily buy eternal success.

Incidentally, 1996 was not an entirely disaster-free year for Nintendo. Its doomed Virtual Boy project was finally given up for dead and creator, Gumpei Yokoi, left the company to set up on his own. However, **Edge** suspects an Atari-esque fall from grace is a long way off for Yamauchi and co.



The failure of Nintendo's Virtual Boy symbolised a continuing public indifference to VR technology. The VB's creator has since resigned

Peter Molyneux (Bullfrog)



Best games of '96:
The best games, or at least the games I played most last year, were *Civ 2*, *Red Alert* and *Bust-A-Move 2* in that order.

Highlight of the year:
The launch of the N64.

The low point:
The realisation that it still takes years to produce good software. I am of course referring to *Dungeon Keeper*, although happily it's now days from completion.

Best movies and albums of the year:
'Braveheart'; 'Children' by Robert Miles

Biggest surprise of '96:
The continuing turbulence of the market. The fact that a company like Acclaim can sink from the dizzy heights of number one to where it is now really shocked me. I suppose it just goes to show that you can never rest on your laurels.

Winners of the year:
Core Design, for restating how good it is with *Tomb Raider*, and Nintendo. Despite the wait and the hype, the N64 has more than lived up to its pre-publicity. It looks good, plays well and has some superb games.

Losers:
Acclaim and Sega who failed, disappointingly, to live up to the challenge of Nintendo and Sony.

Predictions for the biggest event of '97:
The European launch of the N64 and, for PC gamers, the wonderful further enhancement of Direct3D. This is a huge bonus for the PC – hopefully Microsoft will continue to support it.

Plans for '97:
After completing *Dungeon Keeper* I will be reviewing my situation at EA/Bullfrog. What I really crave is to work with a small team and recreate a friendly family environment dedicated to making original games.

Favourite Spice Girl:
Geri!



to the PC. Elsewhere the 3D accelerator fight continued with 3Dfx showing an impressive-looking game from Core called *Tomb Raider* and LucasArts using a Rendition card to run an enhanced *Dark Forces II*.

Of the big three, only Sega turned up at the Tokyo Toy Show, held in early **June** with Yu Suzuki appearing to discuss AM2's work on *Virtua Fighter 3*. Sega also introduced its Saturn Netlink modem and X-Band online service which offered six network games.

And so to the fourth Sunday in the month, when everybody else (in Japan, at least) got to discover what all the fuss was about. The launch of the Nintendo 64 didn't cause anything like the storm that the Super Famicom did five years previously or even that of the debuts of the Saturn and PlayStation. The reason? Nintendo placed the N64 in a wider network of stores than the Akihbara electronics district (the usual launchpad for new consoles), and had already allowed for a huge number of pre-release bookings. The result? Nintendo sold 250,000 of the 300,000 N64s shipped on day one, with everyone buying *Mario 64* and 60% going for *PilotWings 64* as well.

Videogaming's traditional summer slump was partially offset in **July** by the continuing success of the N64 in Japan. However, less than a month after it was launched, a Hong Kong-based firm began hawking an N64

The best games of '96

Last year saw the continuation of a worrying trend amongst videogame developers: slavishly adhering to well-worn genres. Countless beat 'em ups, racers and platform titles stumbled out onto the shelves all through the year, most offering nothing new or vaguely interesting. None of these pretenders made it into **Edge**'s ten best from '96.

The titles featured here either excel in the genres they inhabit (*Red Alert*, *Tekken 2*, *Quake*) or refuse to be categorised (*Tomb Raider*, *Civ 2*, *Syndicate Wars*). The one thing that links them all is brilliant, addictive gameplay – something that can be overlooked in this age of staggering 3D graphics.

Super Mario 64 was an obvious choice. Not only did it offer breathtaking technical innovations, but it also provided days of playing time and a surprise around every platform. It was the first game **Edge** awarded full marks to, which turned out to be a controversial move. It must be noted, though, that the number of gamers in agreement outweighed those who disapproved by a ratio of around ten to one.

The other titles on this page, while not quite matching the epoch-shattering *Super Mario 64*, certainly provided plenty of reasons to sit in front of a screen for hours on end last year.

If '97 offers half as many titles as rich and varied as these, gamers should count themselves extraordinarily lucky.

Super Mario 64

Publisher	Nintendo
Developer	In-house
Edge Rating (E35)	Ten out of ten

Miyamoto once again proves himself the consummate game designer. *Mario 64* is literally bursting at the seams with incredible features, and the N64 could not have hoped for a better launch title. Staggering.



Civilisation 2

Publisher	Microprose
Developer	In-house
Edge rating (E32)	Nine out of ten

Complex, addictive and different every time it is played, *Civ 2* redefines the term 'depth' in relation to videogames. The attention given to every minute detail is simply unsurpassed. A true classic.



Quake

Publisher	GT Interactive
Developer	Id Software
Edge rating (E38)	Nine out of ten

Despite criticisms of the oneplayer mode, *Quake* remains a singular gaming experience. Id has turned the blood-bath shoot 'em up into an art form and not one other first-person blaster could get close.



Syndicate Wars

Publisher	Electronic Arts
Developer	Bullfrog
Edge rating (E38)	Nine out of ten

1996 was not the best year for Bullfrog, but it still managed to do what most developers merely dream of: to produce a vast, violent and believable world and then give the player the firepower to destroy it all.



Resident Evil

Publisher	Capcom
Developer	In-house
Edge rating (E33)	Nine out of ten

Capcom surprised everyone with this deeply unsettling, but highly enjoyable horror adventure. Few players will forget the countless zombies, the nasty surprises and that final boss in a hurry...



Tekken 2

Publisher	Namco
Developer	In-house
Edge rating (E33)	Nine out of ten

Twenty-five brilliantly designed characters, dozens of breath-taking moves and some of the best 3D visuals to date on the PS. *Tekken 2* is among the best beat 'em up available on a home machine.



NiGHTS

Publisher	Sega
Developer	Sonic Team
Edge rating (E36)	Eight out of ten

Some believe this dazzling and inventive showcase for the Saturn's oft-derided 3D abilities was the finest game of '96. It's certainly a reminder that Sega's console has more to offer than just AM ports.



C&C: Red Alert

Publisher	VIE
Developer	Westwood Studios
Edge rating (E40)	Nine out of ten

Boasting dozens of improvements over the original *C&C* – already one of the best games on the PC – *Red Alert* is a masterpiece of varied and stimulating gameplay. Other action strategies fall flat in comparison.



Tomb Raider

Publisher	Eidos
Developer	Core Design
Edge rating (E40)	Nine out of ten

It seemed to come out of nowhere. Core, reliable but workmanlike, mixed genres, ideas and great 3D graphics together and came up with this heady cocktail of a game. A shock in the best sense of the word.



PilotWings 64

Publisher	Nintendo
Developer	In-house
Edge rating (E36)	Nine out of ten

Overlooked in the wake of *Mario 64*, *PilotWings* has plenty to offer on its own terms. Never before has the sensation of flight been so well simulated. The great missions and visuals were icing on the cake.



copying device. Not that there were many N64 games to copy, as every Nintendo critic – and any Sony or Sega employee – would be only yoo quick to point out...

Quake, too, suffered at the hands of pirates as the beta version of the full game appeared on the Internet just hours after a shareware version of the game was released.

As summer lingered on, so too did doubts about the N64 in **August**. With even Hiroshi Yamauchi admitting that Nintendo would be lucky if three of out the next 20 N64 titles matched the quality of *Mario*, others were quick to criticise. Was the machine's Japanese success overrated? Did Nintendo give a toss about Europe or about its third party developers? Would the US launch price fall from $249 to $199?

Things came to a head in mid-August when a Japanese financial daily reported that there was an acute drop-off in demand for the N64. A panic ensued on the Tokyo and Osaka stock exchanges and Nintendo shares were temporarily suspended. A frustrated NOA called a press conference to deny any problems.

While the mutterings concerning Nintendo continued, Sony and Sega took stock and made some serious corporate reshuffles. It was announced that Tom Kalinske would leave Sega of America after six years, along with two other senior execs. The same week, Sony also ousted two senior members of its American management team, including Jim Whims, the



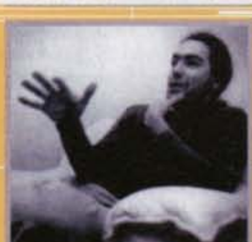
The also rans...

Of course, these weren't the only excellent games of '96. There was a whole host of other titles which gathered on the threshold of the top ten, but didn't quite qualify to enter. The adrenaline rush that was *Wipeout 2097*, for example, proved that not all decent arcade-style racers come from the east, while *F1GP2* took gamers as close to driving in a real Formula One race as they're ever likely to get.

As for other sport sims, *Total NBA* provided an astonishing showcase for the PlayStation's visual capabilities and was a great game to boot. It will be interesting to see how its sequel fares next year against Konami's *In the Zone 2*. The latter company's excellent joypad wrecker, *Track and Field*, brought the **Edge** office to a standstill over the summer – an event which was only matched by the arrival of a certain Italian plumber...

Other notable titles included Capcom's excellent beat 'em up *Street Fighter Zero 2*, *The Darkening*, *Fighting Vipers*, *Wave Race 64* and PC adventure, *Broken Sword*.

Jon Hare (Sensible Software)



Best game of '96:
Mario 64.
Best movie and album of '96:
'Hunchback of Notre Dame' and 'K' by Kula Shaker.
Winners:
Steven Redgrave and Damon Hill.
Losers:
UK Olympics team and that mouthy sod from Oasis.
Biggest event of '97:
Sensible Soccer 2000 on the PC.
Plans for '97:
To finish our games so we can remind everyone how fab we are.
Favourite Spice Girl:
A tie between the redhead and Posh Spice

Biggest Disappointments of '96

It is important to point out that the following titles were by no means the worst games of '96 – they are merely the ones which people had high expectations of. Expectations which were not met, to varying degrees.

Shadows of the Empire had everything in its favour: the immense power of the N64, the whole 'Star Wars' universe to plunder, the creative input of LucasArts. It still managed to be mediocre. Similarly *Time Commando* and *Ridge Racer Revolution* had everything in their favour, yet failed to deliver the required goods.

All the developers responsible here have the creative abilities to rectify their errors. No doubt they will do that in the coming months...

Crash Bandicoot

Publisher	SCEA
Developer	Naughty Dog
Edge rating (E39)	Seven out of ten

It was marketed as the PlayStation's answer to *Super Mario 64* and gamers were promised a 3D platform experience. In reality *Crash* was a 2D-style platformer spruced up with polygonal frills.



Shadows of the Empire

Publisher	Nintendo
Developer	LucasArts
Edge rating (E41)	Six out of ten

The first big let down of the 64bit age. The marriage of Nintendo and LucasArts should have been a defining moment. It wasn't. The resultant game was not even as good as some LucasArts 16bit titles.



Time Commando

Publisher	Electronic Arts
Developer	Adeline
Edge rating (E36)	Six out of ten

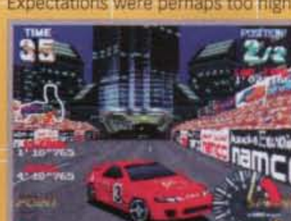
After the undoubtedly fabulous *Little Big Adventure*, **Edge** was expecting much from Adeline's foray into the action genre. It was clear from this awkward affair, though, that Raynal and co were way out of their depth.



Ridge Racer Revolution

Publisher	Namco
Developer	In-house
Edge rating (E29)	Seven out of ten

A frustratingly lacklustre attempt to improve upon a key 32bit arcade conversion. In many respects it is virtually indistinguishable from its admittedly brilliant predecessor. Expectations were perhaps too high.



Cruis'n USA

Publisher	Nintendo
Developer	Midway
Edge rating (E41)	Four out of ten

Although *Cruis'n USA* was a worse game than *Shadows of the Empire*, it wasn't as disappointing because no one was really expecting much. As Dave Perry has said, the only surprise is that Nintendo shipped it.



Tony Crowther (Gremlin)



Best game of '96:
Wipeout was the only game I played to death. I know it's an old game, but I only got a PlayStation last year.
Highlight of the year:
Finishing *Realms of the Haunting*. It was the biggest game I've ever written – not in gameplay terms, though that was large, but in data. I've never seen so much data...
The low point:
Not too many lows this year. My tooth chipped and that did hurt. I caught chicken pox from my daughter which turned into shingles. That was fun...
Best movies of the year:
'ID4' – it just reminded me of the 'Star Wars' days. 'The Rock' was good, too.
Game that most spectacularly failed to live up to its hype:
Quake was posted as being more than it was, but it didn't fail spectacularly. The thing is, the more hype you give, the more sales you gain, so id doesn't usually fail.
Biggest surprise of '96:
I was going to say the N64, but that didn't surprise me. Finding out I'd never had chicken pox before.
Winners of the year:
Gremlin, for helping me to develop *Realms of the Haunting*.
Losers:
Watcom, for their supposedly bug-free development kit. I've spent so much time finding ways to get my product bug-free.
Predictions for the biggest event of '97:
This is the first time in my life I'll be developing for a console machine, the PlayStation.
Plans for '97:
My aim is to write the best ever game on the PlayStation. Do I ever set my goals high...
Favourite Spice Girl:
Don't know their names, and can only describe them by hair colour. If I had to pick one, I'd go for the one with long, dark hair. Just don't tell my wife.



public face of SCEA who had told Sega and Nintendo to 'go big or go home' at E3. A man of his word, then.

Both companies maintained that the timing of the departures was coincidental. And nothing to do with the fact that the N64 was coming to the US in less than a month.

As the nights drew in, so the videogames world snapped back into action in **September** as it began to gear up for the big Christmas market. Autumn ECTS found European developers in bullish form, with the 32bits holding the fort for what could have been the last time before the advent of 64bit gaming. *Command & Conquer: Red Alert*, *Tomb Raider* and *Wipeout 2097* were the standout titles. Disappointingly, the only N64 presence was Acclaim's *Turok: Dinosaur Hunter*.

Japan's annual arcade showcase, JAMMA, saw Sega and Namco locked together in a bitter fight, both companies bringing similar titles to the market. Sega had yet another version of *Virtua Fighter 3*, this time in an almost complete form, as was *Sega Touring Car Championship*. Namco failed to show its System 33 board, and the rest of its roster proved uninspiring. Konami's form picked up with the innovative racing game *GTi Club (Côte D'Azur)*, while Sega soldiered on with no less than three *Street Fighter* games.

Matsushita broke the silence about its M2 project when it spoke to **Edge** about the 64bit machine. The company confirmed that it is using twin CPUs based on PowerPC 602

1997: Consoles

Between '85 and '95, prospective console owners had it easy: NES or Master System, SNES or Mega Drive – the choices were always between two systems. Yes, machines like the FM Towns Marty and the Jaguar skulked around on the sidelines, but the former really only appealed to a ghetto of hardcore gamers and the latter... well, the latter really only appealed to people who wanted to play *Tempest 2000*.

The last part of '95 and most of '96 saw a much more frantic and disparate struggle emerge. The 3DO hung in there for a while, attracting the more mature user with its multimedia pretensions, the Neo Geo CD tentatively poked its head out of Japan and presented an attractive proposition for arcade dwellers, and of course the PlayStation, Saturn and N64 all arrived, each with its own barrage of incredible features. The bad news for consumers is that, in 1997, things aren't going to get any easier.

First, the good news for Luddites: both the PlayStation and the Saturn will remain important machines for some time yet, attracting major software support if only for their still-strong user bases. However, attention will inevitably turn toward each consoles' sequel during the latter half of the year as specs and screenshots slowly leak out through the gaming press. Rumours about the machines have already surfaced (see **E**41), but there will be much inaccurate speculation and wishful thinking throughout the year.

As for the N64, the machine's thoroughly predictable success in the States and Japan (despite a scare over poor sales in the summer – see **E**38) will give it a position of paramount importance in '97. However, Nintendo will have to prove in '97 what Sega failed to prove in '96: that thirdparty output for its machine can match in-house titles. *Cruis'n USA*, *Shadows of the Empire* and *Killer Instinct Gold* were all disappointing, and several future releases look similarly lacklustre. Although 47 games were promised at last year's Shoshinkai event, few of them were shown in playable form, further fuelling worries about quality. Unless titles of a similar quality to, say, *Tomb Raider* and *Resident Evil* start to appear, Nintendo could well regret its highly restrictive Dream Team policy. The cheap and relatively safe CD format might mean that a lot of dross ends up being released on the PlayStation and Saturn, but it also means previously uninspiring companies get plenty of second chances.

Unless titles of a similar quality to, say, *Tomb Raider* start to appear, Nintendo could well regret its Dream Team policy

There may be a couple of other slight problems facing Nintendo. For a start, the company will have to show that it has a few new ideas up its sleeve. With most of the N64's best games to date have been remakes of earlier titles (see *WaveRace 64*, *Mario Kart 64*, *Pilot Wings 64*), punters might be looking for something completely new in '97. Furthermore, the European launch could be a little tricky – 32bit consoles have a massive following here and carts are likely to retail at the extremely unpalatable £60-70 mark. However, as has been proved time and time again in the past, the minuscule European market is of little consequence to Japanese hardware companies.

The dark horse on the console horizon is, of course, M2. Matsushita still hasn't announced an official launch date yet, but the near-mythical machine has been slated for release later this year. Early info revealed exclusively to **Edge** in October hinted towards the console being an extraordinarily powerful contender. With Matsushita claiming polygon manipulation abilities and a processing speed on par with Sega's Model 3 arcade board, this could well be the format to watch in '97.








1996 ended with three contenders in the console market: the N64, the PlayStation and the Saturn. There was also one would-be contender in the shape of Matsushita's M2 (above right). Can '97 support all four?





Hardware relies on good software. Games like *Wave Race 64* (above left), *Tekken 2* (above middle) and *NiGHTS* (above right) kept the major consoles bouyant last year. M2 will be pegging its hopes on *D2* (right)



chips. Claiming a performance of around one million polygons per second and more titles at launch than N64, Matsushita had clearly acquired some of Trip Hawkins' hyping skills as part of the 3DO/M2 deal, although the company were understandably keen to distance itself from the failed 32bit format.

Finally, the first US N64s went on sale on September 29.

By the start of **October**, all 350,000 N64s initially allocated for the US market had sold out, helped by a $50 million 'Change the system' ad campaign. With these figures Nintendo claimed it could sell 1.5 million before the year's end. Less than two weeks later, NOA announced that it had found 450,000 more units for the US market. Chairman Howard Lincoln must have one big sofa in his office.

The voracious Japanese appetite for anything connected with videogames accounts for the large number of game-related shows and events that graced Tokyo in 1996. There was a 45-minute queue for train tickets to the Tokyo Game Show and over a thousand punters turned up in full costume as their favourite game characters.

Showcasing a staggering 350 titles – the bulk on the PlayStation and Saturn – the major games to impress were Sega's *Virtual On* and an unnamed *Ridge Racer* follow-up from Namco. Otherwise the event was merely a chance for the fanatical otaku to see all that they'd read about in the flesh.

Finally, Japanese N64 owners got another decent game to



The most promising games of '97

Making predictions is a precarious business. No matter how much the odds are stacked in a game's favour (original plot, good graphics, previously successful developer), sometimes things just go terribly wrong. *Shadows of the Empire*, for example, was widely touted as one of the games to look forward to at the beginning of last year, but almost everyone has been disappointed with the end result.

With slight trepidation, then, **Edge** offers ten games to look forward to in the coming months. A few of these are sure fire winners: it is hard to picture AM2 fumbling the conversion of *Virtua Fighter 3*, just as it is unimaginable that *Resident Evil 2* will be anything but great, terrifying entertainment. Given the success of NCL's previous N64 titles, it is also difficult to imagine *Star Fox 64* being a disappointment.

Some games in the list are more contentious. *Monkey Island* parts 1 and 2 were, without question, seminal point-and-click adventures, but *The Dig* was comparatively disappointing. *Monkey Island 3*, therefore, could either represent a further slip in standards or a startling return to form. D2, meanwhile, looks amazing, but when will its host machine appear?

Other titles to look out for are DMA's politician-bating *Grand Theft Auto*, AM3's distinctive take on the beat 'em up, *Last Bronx*, and Konami's fifth *Goemon* title, due out on the N64 later this year.

Resident Evil 2 (PS)

Publisher	Virgin
Developer	Capcom
Release date	March (Japan)

The original was one of the most compelling adventure titles of the last five years. The sequel boasts a greater variety of puzzles, baddies and weapons, and it's one-and-a-half times bigger. **Edge** cannot wait.



Final Fantasy VII (PS)

Publisher	Square Soft
Developer	In-house
Releases	Out now (Japan)

Getting Square Soft to sign up as a PlayStation developer was a major coup for Sony. *Final Fantasy VII* will show why. Hopefully, Square will retain much of the series' identity while creating new visual standards.



MANX TT (Saturn)

Publisher	Sega
Developer	(In-house) AM3
Release	TBA

One of last years key arcade titles, Manx TT will no doubt be just as important on the Saturn. The lack of a handlebar may deter purists, but the exhilertaing speed and realism of the game will captivate all others.



Virtua Fighter 3 (Saturn)

Publisher	Sega
Developer	AM2
Release	Late '97

It's unclear how accurate the Saturn version of this masterful beat 'em up will be, in visual terms. Saturn owners will no doubt revel in the brace of new characters, moves and interactive arenas, regardless.



Unreal (PC)

Publisher	GT Interactive
Developer	Epic Megagames
Release	August

With a near-miracle of a 3D engine and some amazingly atmospheric locations, *Unreal* could well turn out to be the game that out-*Quakes* *Quake*. It could also herald a new generation for PC action games.



Monkey Island 3 (PC)

Publisher	Virgin
Developer	LucasArts
Release	June

The previous titles were among the best ever games to grace the PC. If *Monkey Island 3* can match them for wit, style and bizarre lateral puzzles, it will make a huge impact on PC gamers bored of *Quake*-alikes.



Star Fox 64 (Nintendo 64)

Publisher	Nintendo
Developer	In-house
Releases	March (Japan)

Promising to build substantially on the strong foundations of the SNES original, *Star Fox 64* may well turn out to be the most visually stunning and addictive shoot 'em up of the year. Another gem from Nintendo.



Zelda 64 (N64)

Publisher	Nintendo
Developer	In-house
Release	TBA

With the exception of the *Mario* titles, no other game defined the SNES like *Zelda III* did. Now it's the N64's turn. Just imagine those vast, detailed and intricate worlds transposed into glorious 3D...



D2 (M2)

Publisher	Panasonic
Developer	WARP Inc
Release	TBA

This true 3D sequel to WARP's FMV adventure, *D*, boasts amazingly detailed textures, brilliant lighting effects and a story apparently filled with suspense and intrigue. Likely to start a trend on Matsushita's format.



GTi Club (arcade)

Publisher	Konami
Developer	In-house
Release	TBA (Arcade)

Konami continues its return to form with this modestly innovative driving game. Set in a series of French towns, it offers completely navigable roadways and lush, detailed visuals. Copycat titles are inevitable.



people bought computers in order to play games on them. A fairly substantial and worthwhile realisation, then.

The year ended with a major new product from Sony, the Net Yaroze PlayStation package, demonstrated to **Edge** in **December**, which features a programmable PS together with a library of programming libraries, a C compiler and other tools. An enthusiast's machine with a hefty £550 price tag, Yaroze looked nonetheless like a brave and commendable step forward. Adding a fourth colour to the PlayStation palette, Sony also announced a white PlayStation for the Far East which will come with the added ability to play MPEG movies.

The year came to a close, as most do, with more speculation about powerful new formats playing on the minds of those making purchases in the festive season.

3Dfx revealed its new 3D accelerator for the PC, the Obsidian XS-100, claiming it can match the performance of an SGI Impact for only a tenth of the price. It's worth bearing in mind that that's still $5000, however.

Finally, Saturn 2 and PlayStation 2 specifications were mooted, offering a DVD-playing, backwards-compatible 64bit PlayStation 2 and a Saturn 2 boasting an 8-speed CD-ROM drive and modem as standard.

There will be more stories concerning these and other developments during 1997. And **Edge** will be breaking them...



As with every company, though, Matsushita will not have an entirely easy ride in '97. Most importantly, the company simply does not have the videogame heritage of Sega or Nintendo – a factor which may not have hampered Sony, but which was definitely a nail in the 3DO's coffin. And, on the subject of 3DO, M2 may also suffer from being linked with a console that failed in last year's 32bit war. Matsushita is doing its best to sever all ties with the past, but gamers don't forget second-rate hardware in a hurry.

In the end, it is software that will decide the success of the machine and the stunning early screenshots of *D2* (**E**39) together with a promised ten launch games from Panasonic Wondertainment, will probably be enough to make gamers forget both Matsushita's lack of experience in this industry and M2's ties with 3DO. However, with apparently limited thirdparty development support (the only big names signed so far are Konami, Warp and Capcom), the M2 is still very much the underdog.

With so many strong contenders, then, 1997 is shaping up to be a fascinating year. Not only are the PlayStation and Saturn still scrapping it out for the lion's share of the healthy 32bit market, but a new 64bit battle will soon begin between the M2 and N64. The interesting thing is, none of the four machines look particularly weak at present, and all boast attractive software line-ups. Nevertheless, it is debatable whether the market will be able to support all four machines simultaneously.

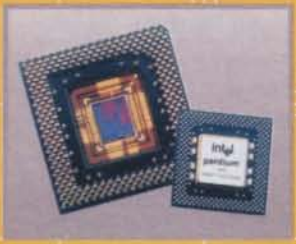
So, the question is, which company will be following Atari's example next year? It is difficult to imagine Sega or Sony drifting out of the picture: the Saturn and PlayStation sequels will keep faithful users of the original machines in tow. Furthermore, it's unlikely that the N64 with its library of astounding in-house games will lose out in the coming wars. The M2, with no history in the industry and small-scale thirdparty interest, is perhaps on the shakiest ground. Matsushita's marketing clout combined with the unit's raw power will be its saving graces, if any.

1997: PCs

Unsurprisingly, 1997 will see the minimum requirement to run most PC games jump dramatically. Last year, you could get away with playing the majority of new releases on a P60 with 16 megs of memory. P60s aren't even being manufactured any more. By the middle of next year, you'll need at least a P166 with 24 or even 32 megs of memory. What's more, it's not unfeasible that game developers will end 1997 aiming, with sadistic disregard for everybody else's bank balances, at the P200 and beyond. On top of that, gamers will be expected to have one or more of the following:

1. A decent 3D accelerator card.
The PC is going to need all the help it can get if developers continue to produce fast 3D games in an attempt to compete with console titles. *Quake* made it abundantly clear that speed and hi-res graphics are not comfortable bed fellows as far as the unaccelerated PC is concerned.

Although most game developers are still unprepared to commit their support to one specific acceleration technology, everyone is keen to jump on the Direct3D bandwagon. Therefore, any graphics card which is compatible with D3D should be worth considering. On that note, Microsoft's graphics initiative, along with all the other DirectX components, will be going through some serious changes next year. **Edge** will be covering D3D's new features in coming issues.



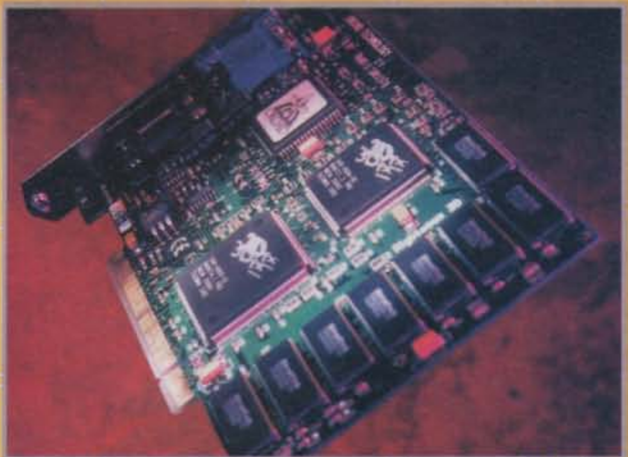
Intel's MMX technology will no doubt become an essential component of the gamers' PC

2. An Intel MMX chip.
Throughout 1997, Intel is going to slowly phase MMX technology into its Pentium processor chipsets. MMX features a set of specific multimedia instructions capable of, amongst other things, speeding up games by 10 to 15%. See this issue's MMX news story for more details.

3. A modem.
Game developers are currently obsessed with including Net compatability in new games and this is more likely to esculate than abate. Importantly, there is a small but growing contingent of software industry pundits who believe internet gaming is the future. They could be right. To use *Quake* as an example again, it's obvious that most of the spectacular reviews the game received last year were based on playing frenzied multiplayer frag sessions, rather than the slightly more sedate oneplayer game. Most PC owners don't have the luxury of an office full of networked high-end PCs, so playing games like *Quake* over the Internet is the only multiplayer option.

However, Net gaming is still a tiny phenomenon in this country and it could take more than a year for people to get online and start playing. Huge phone bills and unreliable or slow connections are still making the whole concept unattractive to a vast majority of PC gamers. See Netview this month for a look at internet gaming prospects this year.

So 1997 is business as usual for the PC. New technology will reach its sell-by date every six months. Microsoft will strengthen its grasp on all areas of the industry and will even continue on its difficult mission to be considered a quality game developer (*NBA Full Court Press*, anyone?). Parents will continue buying internet starter kits for their children, hoping that unlimited access to the information Superhighway will be great for 'school projects and stuff'. Those same parents will invariably end up both disappointed and horrified when their offspring fail to find anything even remotely useful for school, but *do* discover hundreds of pictures of naked Swedish women. And finally, the money you are expected to spend to get a machine which runs the latest games will increase astronomically. **Edge** wouldn't have it any other way.





Accelerator cards (left) and the internet (above) will play bigger roles in PC gaming next year



play. More than decent, in fact, as *WaveRace 64* proved once again that when it comes to delivering sheer fun, no company can match Nintendo. Sony was trying to match Nintendo, or *Mario* at least, with the release of its own 3D platformer, *Crash Bandicoot*. The game proved to be another typical platform game, though, relying more on spangly graphics and a desperate-to-be-hip character than innovative gameplay.

November 22-24 saw Nintendo disappoint at the eighth annual Shoshinkai show – mainly because there was no playable version of the long-awaited *Zelda 64*. But there was plenty to cheer Nintendo supporters as the company confirmed 47 titles for the Japanese market and showed the 64DD peripheral. Playable versions of *Mario Kart 64* and *Starfox 64* were on show and impressed all who saw them.

Yoshi's Island 2 and *Mother 3* were also present but only on video – as was *Zelda 64*, which looked very promising with a polygon world similar to that of *Super Mario 64*. Of the thirdparty software at Shoshinkai, Konami's *J-League Perfect Striker* and *Goeman 64* stood out, along with Enix's old-fashioned yet spectacular platformer, *Go! Go! Trouble Makers*.

Apple opened up to **Edge** about its plans for an assault on the videogames market. After creating the royalty-free Game Sprockets software development kit and appointing a game evangelist in the form of Mark Gaviani, it seemed as though Apple had finally realised that quite a substantial number of

nuMedia

in association with ocean

No 10

A meeting point for media capitalising on the digital entertainment revolution

Last month saw the ficticious birthdate of HAL, the intelligent, self-aware and ultimately psychotic computer featured in Arthur C Clarke's seminal sci-fi novel, '2001: A Space Odyssey'. Clarke wrote that book in the Sixties – when 1997 was a long, long way off. Strangely, though, the world he must have imagined HAL was born into is not that dissimilar from today's reality. The clear divide between human and machine truly is blurring.

Hence Clifford Stoll's extreme but thought-provoking tirade against computer culture, 'Silicon Snake Oil' (see Books). Technology, he says, is replacing real experience – it is trespassing on areas of human life that it previously had no place to move within. He could be right. Everything featured in nuMedia bears the hallmarks of computer technology encroaching steadily into all facets of life. People go to shops to get camera film developed. Digital cameras are intended to put a stop to that. People read magazines. CD-ROMs want to replace them. People used to play musical instruments. Is electronic music, or more specifically sampling, putting them at risk too?

It would be easy to dismiss such arguments as techno paranoia, but bear in mind that early Victorians believed that travelling over 30mph would kill a man and that proposed forms of aircraft would never even get off the ground. One of the most exciting things about technology is that you never know where it's going to lead you. Ultimately, it's probably best just to enjoy the trip.

Gadgets

- DC-2V Digital Camera
- Ricoh
- £1000 (with screen), £850 (without)
- Out now (Japan)

Digital camera

If you want to send some holiday snaps to your great aunt Edith in Oz, you've got the hassle of getting a print made, forking out for the postage, and then probably having them all confiscated by Australian customs officials.

Ricoh's DC-2V brings photo taking bang up to date. Not only is it a fully featured digital camera (with two levels of resolution, date marking and so on), it can also record sound along with images, and send the whole lot down a normal phone line. All you need is a modem and someone at the other end who's actually vaguely interested in what you did on holiday...



DC-2V Ricoh, tel 01782 717100

CD-ROM

- Produced by Pearson New Entertainment
- Developed by Denovo
- £7
- Out now





SFX 2 CD-ROM

Preaching to the converted may be a waste of time for the religious, but it's obviously a safe road to success for the makers of spin-off CD-ROM magazines.

Hence, *SFX* the CD ROM is arranged similarly to *SFX* the magazine, with content separated into sections like Features, Reviews and News so that readers of the printed version will feel at home. Also, like the mag, almost every section has something to recommend it. One of the features, for example, takes an interesting look at a company which designs fake computer interfaces for Hollywood films, while 'Jurassic Park 2' is discussed in the News section and actually made to sound interesting. Furthermore, 'X Files' info is splattered throughout (which will be enough to guarantee the product's success) and everything is well cross-referenced and presented. Plus, of course, all articles are written in the witty, authoritative manner sci-fi fans have come to expect from the magazine.

While *SFX 2* could have benefitted with being a little more brash and innovative, most sci-fi fans will find it informative and interesting.

Video

- Directed by Hiroshi Negishi
- 45 mins
- Cert 18
- £13
- Out now



Suikoden Demon Century

The major recurring theme of anime movies is mass devastation – whether precipitated by nuclear war or natural disaster it crops up in dozens of works (including 'Akira', possibly the most well-known anime feature in the west), and it provides the backdrop to 'Suikoden Demon Century'.

Here, a Tokyo of the future has been torn apart by a massive earthquake and now the crumbling city is ruled by various Mafioso-style crime gangs. Into this dystopia walks Takateru Suga, whose sister has been kidnapped by the largest gang. His mission: to assemble a team of helpers and get her back.

'Suikoden' is standard anime fodder: plenty of stylised gory violence, a few mystical overtones, and a suitably nasty villain, all handled with panache and enthusiasm. Where it scores most highly, though, is in its wealth of weird characters, including a cross-dressing fighter and a ninja nun. The only let down is that the characters are given only 45 minutes to flesh out their roles. Later instalments will no doubt allow greater character development and more convoluted plots.

- 12-speed CD-ROM drive
- Aztech
- £130
- Out now

12-speed CD-ROM drive

Audiophiles were quite happy with CDs spinning around at a relaxed 500rpm, but once computer boffins were let loose on the little silver discs nothing would be the same again. Before the ink was even dry on the blueprints of CD-ROM, double-speed drives were popping up all over the place, and nowadays you can't move for six- or eight-speed units.

Even they pale in comparison against Aztech's mighty 12-speed CD-ROM drive. For a mere £130 you can own a machine that will happily spin a tiny plastic disc at speeds of up to 6,000rpm, transferring nearly 2,000Kb every second. At that rate, the Zeta 12X can play an entire audio CD in the time it takes a regular CD player to warm up.



CD-ROM Aztech, tel: 01734 820840

- LitePro 620 Projector
- Texas Instruments
- £9,500
- Out now

DLP projector

Texas Instruments (previously famed for its TI99/4A and Speak and Spell) has developed an entirely new projection technology called DLP (digital light processing), that uses hundreds of thousands of tiny mirrors to build up an incredibly sharp, bright image. The mirrors, only 16 microns square, flip up and down on microscopic hinges thousands of times a second – and, remarkably, hardly ever break.

InFocus is the first company to get a DLP product onto the streets, in the form of the £9,500 LitePro 620 projector. Intended primarily for big business multimedia presentations, the LitePro 620 will nonetheless make a very impressive addition to any millionaire's home cinema system.



LitePro 620 Projector InFocus PR, tel: 0181 563 2222

Music

Heaven Deconstruction
Heaven Deconstruction
Play It Again Sam



Created during the recording of The Young Gods' 'Only Heaven' album, this interesting side project from band member Franz uses samples and themes from those sessions as the basis for a far more adventurous album. As fixated on atmospheric samples as structure and melody, it's a far cry from the searing, muscular works of the Gods. While the experimentation with noises and pure sample loops is intriguing, it's the more coherent, techno-based tracks which power the album, making it a fascinating and worthy companion piece to the fruits of Franz's more mainstream labours.

Love Groove Dance Party Vol. 3&4
Danny Rampling



Following the musical pattern set by the radio show of the same name, Rampling's second double-mix set places the house on the 'Glitterball Mix' CD and the techno tracks on the 'Spacey Trance Mix' CD. It's the latter which contains the most gems, the Glitterball selection suffering from the current drought of memorable house tracks. The techno set kicks off with Leftfield's 'Space Shanty' before venturing into less familiar territory, interspersing the likes of 'Fever and The Brain' with classics from 'Union Jack' and 'Art Of Trance'. Flash mixing isn't really the issue here: it's simply a big-name compilation.

Chiastic Slide
Autechre
Warp



Purveyors of German techno Autechre continue their obsession with beautiful machine music on 'Chiastic Slide' – another amalgam of purely digital beats, quirky effects and lead patterns that veer between the plaintive and plain funky.

The James Brown-meets-fax machine whirl of 'Nuane' embodies their sound perfectly, seemingly formless yet densely structured. Like Aphex Twin, there's a marriage between metronomic beats and emotive melodies. But Autechre's creations are darker affairs. Excellent, but unfamiliar territory.

Books

Silicon Snake Oil

- Clifford Stoll
- Pan
- £6
- ISBN: 0-330-34442-0

In 1854, Henry Thoreau wrote, 'Our inventions are wont to be pretty toys which distract our attention from serious things. They are but improved means to an unimproved end. We are in great haste to construct a magnetic telegraph from Maine to Texas; but Maine and Texas, it may be, have nothing important to communicate.' Now, the magnetic telegraph has evolved into the Internet, but, argues Stoll, Thoreau's sentiment is as potent and relevant today as it ever was.

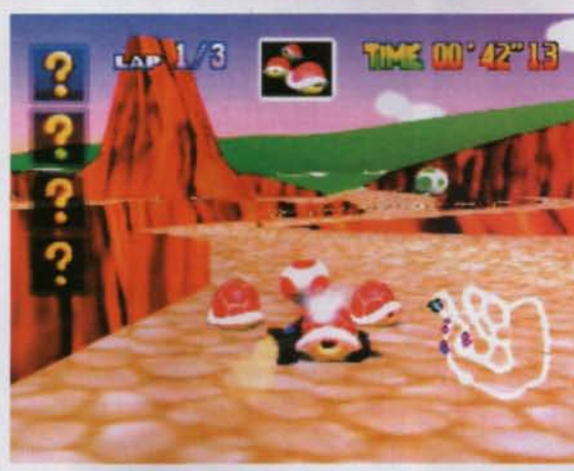
Stoll, author of real-life cyber thriller 'The Cuckoo's Nest', is one of a growing number of one-time computer evangelists undergoing a radical change of heart. Where once he imagined networks bringing unity, empowerment and democracy, he now suspects that, 'they isolate us from one another and cheapen the meaning of actual experience. They work against literacy and creativity. They will undercut our schools and libraries.' The reasons for his concerns are delivered in what he terms 'free-form meditations' which range from stinging and persuasive attacks on the 'aridity of computer culture' to slightly suspect basket-weaving-is-best old fogeyism. All in all, however, his stark assertion that 'life in the real world is far more interesting, far more important, far richer than anything you'll ever find on the web' carries irresistable weight.



Mario Kart **64**







Though *Mario Kart's* courses are varied, some, such as Donkey Kong's stage (above), are much more interesting than others. Get golds in all cups and you get the chance to race in a mirror mode



It's obvious that the design of some courses was laboured over. Yoshi's track (above right) is a particularly good example, offering many different routes, as can be seen from the on-screen map

Four and a half years ago, *Super Mario Kart* revolutionised the racing game. Eschewing the desperately hip supercars and global tourist sites then in vogue, it was instead set in the familiar environs of the *Mario* universe with its own unique brand of cartoon cheeriness. The resultant racing was way ahead of any of its 16bit rivals. In short it was classic Nintendo, classic Miyamoto.

In 1997 the story is a similar one. *Mario Kart 64* takes the essence of the original, exploits the power of the N64 and brings fun back to racing. Much is familiar here – all eight of the drivers are *Mario* regulars, seven transferred straight from *Super Mario Kart* with Wario replacing the once-popular Koopa Trooper.

Driving is basic, throwing out rev counters and gear changes in favour of simple press 'n' go acceleration. The simple accelerator and brake controls can be combined to perform a handbrake turn, while the joypad's trigger executes power-ups and its shoulder button skip-like jumps.

The power-ups are a mix of old and new. Green and red shells work as they did in the first, but are also joined by multiple options, which spin around your character to provide a shield before they're launched. Standard red mushrooms, offering a turbo-like boost, can also be collected in groups of three, while orange mushrooms can be used repeatedly for a limited period. Banana skins also appear in singular and multiple varieties, the latter seeing a stream tagging along behind your kart. The lightning bolt, star and ghost power-ups also make the journey from 16bit and perform exactly as they did in the original. The only all-new weapons are a spiky blue shell, which homes in on the race leader, and a dummy power-up crystal,



The racers' behaviour doesn't differ much, but they're excellently rendered





The Mushroom (Kinokio) Cup eases the player into action, with quite plain courses. The standout track is probably the third, Noko Noko Beach, which features a short cut through rock and waves lapping upon the shoreline. Track four, Kara Kara Desert, includes a steam train as a hazard



In lower positions you often find yourself collecting juicier power-ups, such as this handy invincibility star



Drivers need complete only three laps per race rather than the original four, which is a good thing considering the size of some of them. Wario Stadium is absolutely enormous

which is intended to fool other drivers into attempting to pick it up – whereupon they'll crash.

In terms of course design, the undulating landscapes are remarkably open, allowing you to drive outside of the tracks' confines, up roadside banks and over the surrounding terrain. Their variation is also worth noting – each one uses a different style of graphics, ranging from *Daytona*-esque roadway to stadium-based dirt track to snow-flanked icy path. Some courses are beautifully designed constructions with tunnels, caverns, huge jumps and sheer edged drop-offs all adding to the enjoyment. Tracks also features animated peripheral details such as a paddle steamer and a Wild West steam train, and, as you'd expect, all the courses – from background scenery to in-game music to little clips of character speech – carry the hallmark of the Mario universe, a reassuring familiarity that oozes quality.

Tactically, the game relies primarily on adept use of the different power-ups available and on mastery of the N64's analogue control stick. The karts are fairly forgiving and can really be thrown into corners without fear of losing control. However, by gently easing the stick around instead slamming it from side to side – which will be most players' approach during their first hour or two of play – it's possible to gain much more control over your vehicle.

Which is a definite requirement, especially in the oneplayer Grand Prix mode, where the CPU competition cheats in order to keep up with your kart. No matter how clean a race you drive and no matter how many power-ups you use to your advantage, the other racers are always right on your tail. It's possible ▶



Drivers come up against moving traffic on Kinopio Highway, the first of the Flower Cup's tracks. Its second level, Frappe Snowland, features a giant Mario 'statue', seemingly made of ice. Track three, Choco Mountain, is one of the fastest – little surprise considering its basic nature and fogging



The Star Cup opens with Wario Stadium, whose walls are plastered with images of Mario's arch enemy. None of the tracks are as simplistic as those of the original game – some even disorientate with their complexity. Hence guiding arrows on Star Cup's second track, the icy Sherbet Land



Even when playing with three or four players, the game retains speed. There is a trade-off, though – a complete lack of CPU opponents







The multiple-shell power-ups surround your kart with items, which acts as a temporary shield (left)

to drive a perfect race then slip up close to the finish only to see two or three other karts streak by. It's rather a shame that Nintendo should elect to use such 'cheap' opposition AI, but some would no doubt argue that it maintains a decent level of difficulty. And, after all, *Super Mario Kart* veterans will be all too familiar with CPU-controlled drivers that cheat.

Ultimately, *Mario Kart 64* isn't quite the game that was hoped for. Its main fault is that is has only a handful of genuinely interesting tracks. It would seem that its designers spent longer working on some courses than they did others; the disappointing ones seem almost unfinished and quite dull by comparison.

Also, the difference in performance between the characters isn't as marked as it was in the SNES game, which means that there's actually less 'learning' to do when trying your hand with the full range.

It would have been good, too, to see some more new power-ups rather than so many of the old ones return. The banana skins and green shells won't win many fans this time around, such is their weak nature in comparison to some of the other power-ups.

The multiplayer modes work a treat, though, and make it a must-have title for N64 owners who have access to plenty of joypads and friends. Plus, there are some gameplay skills that will take a while to master, ensuring the game a long lifespan.

Though the game is something of a missed opportunity at heart, its multiplayer modes, addictive battle game, wonderful sound effects and charming visuals will ensure it hit status.

Edge rating:

Eight out of ten



The super-fast Donkey Jungle Park opens the Special Cup and features some glorious scenery. Yoshi Valley follows it and proves to be the game's most complex level. The fourth track, Rainbow Road, should have been one of the strongest, but turns out to be a dreadfully boring experience

Format: **Nintendo 64**		Publisher: **Nintendo**
Developer: **In-house**	Price: **¥9,800 (£50)**	Release: **Out now (Japan)**

Turok: Dinosaur Hunter





Even the lesser adversaries really are something to behold, with incredibly detailed textures and smooth animation



Most of the monsters are based on those of the real-life Jurassic era, with some appearing in cybernetically enhanced form. This triceratops is one of the game's most distinctive varieties of foe

Developed by Iguana, *Turok* is a title that N64 owners will point to in defence of the claim that only Nintendo can write quality games for its console. Here is an independent game that is leaps and bounds ahead of thirdparty turkeys such as *Cruis'n USA*.

As Turok, you must track down the component parts of a magical device called the 'Chronosphere' before your adversary, 'The Campaigner', can use it to bridge an inter-dimensional gap between his realm and Earth. This boils down to a first-person shoot 'em up spread over eight huge levels featuring marshes, rivers, caves, temples and sprawling 'Jurassic Park'-style exteriors filled with gulleys, valleys, mountains and scattered settlements.

From the moment you step into the world of *Turok*, it feels spectacular, with solid, varied and, above all, vast environments.

The levels impress in two ways: first, Iguana's 3D engine uses every special effect imaginable to create the impression of a living, breathing environment. Pools of water are transparent, allowing you to see prehistoric fish lurking just beneath the surface; sunlight blinds you if you stare up at the sky, courtesy of a perfectly executed lens flare effect; and many of the vine-covered ledges can be climbed. In most *Doom*-style games, you're forever nudging up against the confines of the engine – able to look through a window, but not climb out, able to jump, but not cling to a ledge. *Turok*'s world is







Turok **has fallen foul of the censors in Europe. To say that it's bloody at times would be an understatement – graphic sequences such as these might not make it into the UK version**







Turok's lighting effects are first class, throwing enemies into stark relief and making extensive use of the Nintendo 64's impressive transparency facilities



This weapon freezes your enemies, and then shatters them in a blast of blue light. Turok has an amazing arsenal at his disposal, including a nuclear rifle and a rocket launcher

about as interactive as you could wish it to be, and rarely do you feel constrained.

Secondly, the levels are incredibly complex. Though level one is, naturally, fairly straightforward, channelling your progress with steep ravines and straightforward goals, as you step out into the blazing sunlight of the second level, you're free to roam at your leisure. This could have been disastrous – there are few things worse than spending an hour wandering aimlessly around a sprawling play area – but Iguana has worked hard to turn mere wandering into exploration, judiciously including clues and pointers to keep you on the right track. Just as you think you've reached an impasse, you discover a hidden cave, a discreetly placed wall of vines to climb or, peering over the edge of a drop, spy a rope bridge, barely visible in the mists below, and you're up and running again. *Turok*'s structure smacks of a game that's been play-tested to death at every stage, so tight are the level designs that these exteriors are as intuitive and as perfectly paced as the mazes in the original *Doom*.

The eight levels progress from the jungle to labyrinthine temples and castles to weird science-fantasy futuristic compounds filled with giant robots and devious traps.

The only possible fly in the ointment is the game's use of fogging. It doesn't seem all that long ago Nintendo was promising 3D games free of pop-up or the need for strange mists to obscure horizons. Its internal development team achieved this goal with *Mario 64*, but that game's exteriors aren't as extensive as those found in *Turok*. It's disappointing that, having gotten to grips with just about every other aspect of the console, Iguana has had to compromise the view in order to maintain frame rate. In its defence, considering the complexity of some of its monsters, the speed and smoothness of the game is no mean feat.

Fans of 'Jurassic Park' will no doubt be ▶



The lens flare adds an extra dimension to the outdoor levels. The world feels incredibly real

This smacks of a game that's been play-tested to death at every level, so tight are the level designs that they are as intuitive and perfectly paced as those of the original *Doom*







Game environments vary from jungle exteriors to temples, caves and atmospheric dungeons







One of the end-of-level bosses, the T-Rex, hunts the player, casting a beady laser eye across the arena. Its size and detail is astonishing

◀ impressed by the variety and detail of the dinosaurs that inhabit the game world. The early levels ease you in with cannon-fodder raptors, the odd gnarly fish, and henchmen who routinely bring a knife to a gunfight, flailing, coughing and spluttering to a bloody end as you ventilate them with your .45. As the game progresses, the henchmen begin to attack in groups and use increasingly powerful weapons, which spawn ever more impressive special effects (the Magi throw rivers of green energy at you – a great showcase of the N64's transparency effects). But it is the range of big dinosaurs that will leave players gaping in disbelief at the screen.

PlayStation owners will already be familiar with the kind of detail seen here. The Sony demo-disc T-Rex, which could never appear in a game engine without it grinding to a halt, would be perfectly at home in *Turok*. One of the four boss stages features a huge bionic T-Rex with lasers for eyes. It's absolutely huge, but even it pales in comparison with the brachiosaur. As the mists part to reveal a deep ravine, this monster looms towards you, its head alone being bigger than the raptors. As you peer over the ledge, you can just make out its body in the mist, some 50ft below. It's impossible not to gasp in amazement at a level of realism that was the sole preserve of the prerendered intro only 12 months ago.

Turok juggles the vital areas of level design, speed, complexity and longevity with ease, and, though there are only eight levels, compared to, say, *Tomb Raider*'s 15, there's so much to see and do in each one that the figure is academic. Thoughtfully placed save points, which often appear just as you're beginning to lose hope, and various energy-bolstering pick-ups gleaned from kills conspire to make the negotiation of the game all the more satisfying.

With *Turok*, Iguana exploits the N64 to create a believable, stunningly detailed environment that's second to none, convincingly vindicating its membership, through Acclaim, of the so-called 'Dream Team'. E

Edge rating:

Nine out of ten





'The Campaigner' (above), Turok's mortal enemy. The Mantis (left) is an end-of-level boss that walks on walls and ceilings and spits acid

EDGE			
	Format: **Nintendo 64**	Publisher: **Acclaim**	
	Developer: **Iguana**	Price: **TBA**	Release: **March**

J-League Perfect Striker













Corners (top left) are controlled by the player indicating direction with the analogue stick, and then power. The system is both easy to use and fairly flexible in execution. *Striker*'s graphics may have a slightly 'fuzzy' tinge when compared with other N64 titles, but its animation is wholly convincing





Sliding tackles (above) are also where the game excels. It's possible to clear balls while on the ground

Konami's recent track record with football games has been the envy of every other soccer sim producer. The outstanding *International Superstar Soccer* and its sequel, both on the SNES, were the first Japanese-developed footy games to rival their European counterparts. Previously, Japanese soccer titles had been woefully inadequate, being shallow and awkward by comparison.

The team behind *ISS* has mastered all the key areas of sport sim design in *J-League Perfect Striker*, giving players a simple set of basic controls, a wealth of techniques and extra tricks to be learned, and the not unimportant matter of a decent view of the action. The game is bedecked with a huge number of play options, from standard league, cup and exhibition modes to more unusual treats such as 16 scenarios recreating climaxes of landmark J-League games.

It's clear that *Striker* has been designed with the football fanatic in mind. The game abounds with delightful little touches that will coax much billing and cooing from players and spectators alike. From the finely tuned controls to the amazing motion-captured animation, nothing disappoints.

Players are controlled with the analogue stick for movement, with practically every joypad button used in some way or other for the various kicks, tackles, volleys and headers available in the game. Practically every new release vindicates Nintendo's decision to implement an analogue control system in its 64bit console, and *Striker* is no exception. The players respond to spins and twists of the stick by shimmying, turning and checking their stride, something that has more than just pose value.

One major problem with many soccer sims is the fact that if you run into a defender the basic AI and similarly basic controls severely limit your options – pass or be tackled, but none of that fancy beating two or three men and scoring business. Except, you can in *Striker*. With a flick of the stick you can feint one way, make the defender commit, then turn back the other way and run past him. Once again the subtlety of the N64's analogue controls shines through.

The array of moves available on the many buttons used in the game is pretty bewildering at first,but it's perfectly feasible to play with just two. The main N64



The game camera naturally pulls to a position behind the goalkeeper during goal kicks. Even incidental animation such as this is impressive

A and B buttons control passing, shooting, pushing step-in tackles and headers. The yellow C buttons next to them offer more sophistication, bringing sliding tackles, volleys, sprints and tricky one-twos into play.

What impresses most about *Striker* is not simply the variety of moves available but just how smoothly they segue from one another. It's easy to put rapid, flowing attacks together and it's all the more enjoyable if you can finish with some of the more impressive tricks such as bicycle kicks. But, like all the best sports sims, *Striker* doesn't dictate the way you should play.

You can opt for a measured passing game, building slowly from the back and teasing an opening out of the opposition, or you can take route one and muscle your way to goal. This variety means that – unlike far too many other football sims – there's no single way of scoring goals and, similarly, no single shot that always guarantees a mark on the scoresheet.

The flowing play isn't hindered by the unrivalled motion-capture animation, either – rather than execute all the frames of a move, the game simply cuts to the start of the next one so there's no irritating lag between key press and on-screen action. The attention to detail in the animation further enhances the game, displaying moves that range from Cantona-esque shrugs and struts to little turns of the head as players keep an eye on the defender pursuing them.

All this detail isn't merely cosmetic, though. Controlling players after sliding tackles while they're lying on the turf adds to the gameplay, allowing you to flap a leg out and get the ball away to a teammate. Back heels are simple to pull off as are swift give 'n' go moves – just keep tapping the pass button and players will automatically lay the ball off to the next man.

Cosmetically, *Striker* has a fairly limited game camera which has three levels of zoom and three angles of height – the widest and highest being by far the most playable. Replays offer more scope with a camera that can be moved through 360°, zoomed in close or far out above the pitch. Manic Japanese commentary runs throughout, with some Brazilian-influenced screams of 'Gooooal!' and namechecks on players, including imported stars like Dunga, Scillacci and Jorghinio.

A fallible, unpredictable human opponent is obviously preferable to the CPU opponents, but they provide enough meat to force you to learn to play the game to its fullest degree. The game gets a little confusing with three or four players, especially if they're all on the same side, but with one or two players, *J-League Perfect Striker* is a joy to play. In fact, it's the most versatile and entertaining football game seen on any platform, and forms a strong addition to Nintendo's 64bit portfolio.

An unpredictable human opponent is preferable to CPU opponents, but they provide enough meat to force you to learn to play the game to its fullest degree



Penalty kicks in *Striker* are revolutionary: the striker moves his on-screen cursor (appearing in blue) as he prepares to shoot, while the goalkeeper attempts to match it with his (in red)



When full-time arrives, the game camera pans out to give an overview of the whole pitch

Edge rating:

Nine out of ten



The replay mode (above and top) is hugely flexible, allowing you to view the action from various different angles and speed of 'footage'



Free kicks are controlled in the same fashion as all spot kicks: the player holds down the shoot button to fill up the on-pitch arrow with colour in correspondence with elected power

Format: **Nintendo 64**	Publisher: **Konami**	
Developer: **In-house**	Price: **¥9,800 (£50)**	Release: **Out now (Japan)**

Soul Edge







Though impressive, *Soul Edge*'s repertoire of throws and floor moves is also limited. You'll have seen almost all within a week

To describe *Soul Edge* as a fighting game 'from the makers of *Tekken*' is, ironically, a double-edged sword that both promotes interest and inflates expectation. Given the success of its siblings, comparisons are inevitable.

The supra-historical premise draws armoured knights, samurai, spear maidens and axe-men from all corners of time in a quest for the eponymous demon swords. This has spawned traditional but engaging character designs, from the nunchaka-twirling Li Long to the classic ronin Mitsurugi. If their polygon representations aren't the finest ever seen, they do at least boast a fluidity and responsiveness lacking in Capcom's highly derivative clone *Star Gladiator*.

Of course, it's taken such a long time for *Soul Edge* to make the transition from coin-op to console that *Star Gladiator* has actually beaten it to the shelves. It's easy to see why the delays occurred. More than a straight conversion, *Soul Edge* includes all of *Tekken 2*'s home options (Arcade, Survival, Time Attack, Team Battle and Practice) and improves upon them. The most praiseworthy innovation – though hardly enough to revitalise a tired genre, admittedly – is the Edge Master Mode. It's essentially a thoughtful reworking of the unfashionable 'Story Mode', once de rigeur for every self-respecting beat 'em up conversion. While playing through with one particular character, your progress from stage to stage becomes an heroic narrative through the device of an illustrated storybook. However, each episode has different conditions for winning and presents a variety of challenges. Some opponents are invulnerable to everything but air juggles, for instance, while others must be beaten with a Ring Out. A dose of poison may leave your character with scant seconds to grasp victory, or you might have to defeat several consecutive foes with only one energy bar. In reward, your character accumulates an armoury of specialist weapons that can be saved and used in other modes.





The conversion actually blends elements of the version I & II arcade boards, adding a few generic moves such as the upward blade sweep



An improved practice mode allows players to fight indefinitely against different computer attack types



A raft adrift on a river canyon adds incentive for a Ring Out on Li Long's stage (top left and right). Such touches, married with semi-authentic 'action movie' swordplay, greatly increases the satisfaction of *Soul Edge*'s simplistic combat engine. It's not enough to create a *Tekken* beater, however



The game's 'Weapon Room' is the place to check the effectiveness of various modes of offence

These weapons carry their own statistics and differ in qualities such as range, fighting speed and damage. It may not take too long for accomplished players to find all 70 items (plus some hidden treasures with magical properties) but such dedication to the needs and habits of a home audience merits admiration.

Unlike many games of its ilk, *Soul Edge*'s emphasis on weaponry makes a genuine difference to the style of combat. It is occasionally possible to deflect an attack with a simultaneous counter-attack, though this often results in both fighters locking swords: players then engage in competitive button hammering, á la *Samurai Shodown*. There's no disarming as such, but weapons have their own energy bars and will break if used to parry too often, leaving your character to fight on with punches, kicks and throws (an effective prescription against turtling). The counter system is similar to that of Namco USA's SNES title *Weaponlord*, using directional blocking to interrupt an oncoming attack, and if you finish your opponent with a special auto combo then a *Killer Instinct* 'Ultra'-style fatality ensues. This pack of borrowed ideas holds together reasonably well under Namco's direction, although it doesn't make for the deepest of game engines. There's little freedom to discover your own combos or tagging attacks, limiting its longevity, and where *Tekken 2*'s reversals eventually made the game, the speed of attacks in *Soul Edge* renders them suicidal.

Once again, CD access is almost invisible, thanks to intelligent design as much as competent coding (why reload data if the player elects to continue on the same stage?) and exploits the medium to good effect. The two-minute prerendered intro even surpasses Namco's previous efforts, although the largely forgettable soundtrack of orchestral themes, soft rock and jazz fusion is unlikely to win fans outside of Japan.

Some compromised, uncharismatic backgrounds are most prone to criticism, but the genuine 3D arenas are largely successful, and supported with numerous animated touches and lighting effects to rival Capcom's achievements in *Star Gladiator*. The only obvious glitching occurs when replays are shown from an unintelligible close-up.

In the long term, *Soul Edge* is unlikely to find as wide an audience as the next *Tekken*. Its strait-laced and sombre mood lacks the welcome humour and occasional excess of *Tekken 2*, while the *VF*-style moves are neither as accessible nor as intuitive. Nevertheless, Namco's lavish efforts have added considerable lustre to a decent title that aficionados should find very appealing.

Edge rating:

Eight out of ten



Agreeably, only certain moves or throws (not sidesteps) can Ring Out

Format: **PlayStation**	Publisher: **Namco**	
Developer: **In-house**	Price: **¥5,800 (£30)**	Release: **Out now (Japan)**

Rage Racer









Several touches highlight the game's *Ridge Racer* lineage (from top): a scantily clad bimbo on the starting grid; a tunnel illuminated by orange lights; a mountain pass; a rear-view mirror (first seen in *Revolution*)



Namco's powerful 3D engine allows the player to see remarkably far into the distance. Here, the course in play asks drivers to take a diversion onto one of many steep, San Fransisco-esque stretches of roadway

Namco's latest demonstration of its unfailing commitment to Sony revives the sense of wonder first inspired by its seminal 32bit conversion, *Ridge Racer*, by presenting a driving environment that's as impressive as anything yet seen on the PlayStation and involving the player in a campaign that could take weeks to master.

Entitled *Ridge Racer Grand Prix* in the US, *Rage Racer* takes a leaf out of the dog-eared *Super Sprint*



A tumbling waterfall is in stark contrast to the city environs that make up much of the scenery

book by awarding winnings for races which can then be spent on upgrading, tuning and modifying cars. Supporting the gameplay innovations are four track variations, each different enough to give the impression of driving on four completely separate courses that cycle through day and night as you race. With remarkably professional presentation, improved music and a glorious intro sequence, *Rage Racer* is a totally new game rather than being merely a shallow update of its forebears.

Its Grand Prix option is the master stroke. Though there are more than ten cars to choose from, from four separate teams, only the 'Team Gnade Esperanza' car is available for selection from startup. Predictably, everything about it is below par, from acceleration to handling, and choosing the 'Car Shop' option tantalises with faster, high-performance vehicles, all of which are out of reach. The 'Esperanza' is fast enough to win the easy races, but as you progress through each of the five Grand Prix classes, you'll need to upgrade to stand any chance of a place on the rostrum. The early stages, therefore, become crucial, as you win the money needed to keep your car in the same class as your ambition.

Cleverly, not only do winnings increase as you progress through the classes, but so do the costs of maintaining your car. The lowly 'Esperanza' costs just





More lush scenery beckons as the player approaches a harbour (above). It's not all tarmac – this section sees drivers facing cobblestone-like surfaces (top right). The game's replay mode (right)





1,600 units of currency for a tune-up, but the 'Hijack' – a variation on the pick-up truck theme – costs 577,000. Getting hold of this sort of money isn't easy, and it will take a good few saved games to accumulate. But a fast car is no guarantee of success, as all the opponents are equipped with extremely tough AI routines, dodging left to right to pass you, and waiting patiently for a corner before overtaking on the inside.

Where *Rage Racer* scores most highly is in creating a true sense of speed. Not even *Wipeout 2097* can match the sheer exhilaration of driving the 'Team Assoluto Ghepardo' car at top speed over one of the four undulating courses. This sense of speed is exaggerated by superb track design, which has more in common with *Wipeout* than *Ridge Racer*, featuring steep San Francisco-like hills, 'Italian Job'-style mountain passes and rollercoaster dips. Namco has achieved something special with its 3D engine, with little noticeable pop-up and genuinely remarkable speed and fluidity. The game's pallid colour scheme is worth noting, though, as it gives a rather drab, grubby tinge to the proceedings, lending it a feel that's about as far removed from the likes of *Mario Kart 64* as could possibly be imagined.

As well as offering upgradeable cars, *Rage Racer* includes a DIY design option. Here, players can change the colours of cars and draw, pixel-by-pixel, their own logos to appear on windscreens and bonnets. This simple paint package is purely cosmetic, but it does add another level of depth to the whole experience, providing a laid-back reprise from the all-out action that constitutes the game proper.

Where *Rage Racer* scores most highly is in creating a true sense of speed. Not even *Wipeout 2097* can match the sheer exhilaration of driving the 'Team Assoluto Ghepardo' car

Graphically, the only criticism that could fairly be levelled at *Rage Racer* is that some of its car models look rather basic. Whether this factor is a result of Namco concentrating more on the tracks themselves or merely a case of lazy artwork is unclear, but it's particularly noticeable during replays.

Freed from the confines of its coin-op ancestry, *Rage Racer* offers a combination of flashy visuals, instant gameplay gratification and long-term challenge. Its incredible speed and stylish presentation put it ahead of the original *Ridge Racer* and at least on par with *Sega Rally Championship*.

As a perfect antidote to the disappointing *Revolution*, *Rage Racer* proves, once again, that Namco is in a league of its own when it comes to squeezing the most out of the PlayStation.

Edge rating:

Eight out of ten







The 'paintshop' option (above left) allows you to customise each car

Format: **PlayStation**	Publisher: **Namco**	
Developer: **In-house**	Price: **¥5,800 (£30)**	Release: **Out now (Japan)**

Diablo

It's a strange facet of multiplayer games designed for the Internet that they are likely to have a very strong Tolkienesque fantasy theme. Hence games such as 3DO's *Meridian 59*, Sierra's *The Realm*, and *Ultima Online*. And, as can be deduced from these three, Internet games tend to have something else in common – they are all based upon very tried and tested game formats. *Meridian 59*, *The Realm* and *Ultima Online* are all glorified MUDs, given a bit of a face-lift, but based on the same principles as games that are 20 years old.

Something should be expected from a developer with Blizzard's reputation. Not necessarily originality – the company's biggest hits, Warcraft 1&2, are essentially Command & Conquer with orcs – but at least quality and something more exciting than a MUD.

And that's what's delivered here, although in a rather unsuspected fashion. *Diablo* is essentially a *Gauntlet* clone. The classic Atari coin-op, with four distinct sets of controls mounted on the front of its cabinet, expanded upon the delights possible with multiplayer gaming considerably, and it's an obvious inspiration for a company that wants to deliver some thrills and spills to Internet gamers.

The basis of *Diablo* is a single dungeon that exists beneath a small village. The village has a few basic repair and information services for your on-screen persona to use. Having created and named your own Sorcerer, Warrior or Rogue, you set off down the dungeon with abandon – and up to three friends – searching for treasure and killing monsters. And this is really all the game consists of – a practically endless mixture of exploration, discovery and fighting.

The dungeon itself is endless because *Diablo* has stolen a few tricks from another game too – *Rogue*. One of the most successful shareware titles ever, *Rogue* is available on the Amiga, Mac and PC. It's an extraordinarily basic ASCII-character game that consists merely of an endless dungeon. Its strength is that its dungeons are randomly generated each time you enter them, so you can play it forever without seeing the same thing twice. And this is what *Diablo* does – every time you start a new dungeon, the game creates it from scratch.

And it creates great dungeons too. The setting is atmospheric, architecture is eminently believable and presentation immaculate. *Diablo* is also excellently





The lighting effects are particularly beautiful when a major spell is in operation (top). Burning crosses guarantee notoriety (above)





The central village, where your character can return at any point to trade, heal, repair and undertake all the other usual town activities seen in games of *Diablo*'s genre at this point



As you delve deeper into the dungeons, the levels' textures and feel change substantially



Winding up for a big lightning spell. The large variety of spells and magic items ensures that repeat playability is one of the game's strongest points – you're not going to see them all during your first game





The minor character animations are one of the strong graphical aspects

animated and realised, with some of the most wonderful light-sourcing yet seen, all of which adds greatly to the pleasure of wandering around hitting things. The monsters are top-notch too, each with their own characteristics granted by very sophisticated AI routines that never see them getting stuck behind scenery, and is sophisticated enough to include morale for some of the smaller creatures who are likely to flee if they see a comrade die.

There are monsters by the score too: one thing *Diablo* is not afraid of is multiple enemies, and rooms packed to the gunwhales with them are common.

Ultimately, though, Diablo is something of a disappointment. You can grow tired of beating things up and collecting even more magical staffs, potions, rings and the like, and the fantasy setting will annoy as many people as it enchants. It's a shame that Blizzard doesn't appear to have the creative flair and imagination to complement its unquestionable talent for producing slick, clever games. Whether or not *Diablo* will be succesful, however, is another question. Blizzard is hugely committed to multiplayer gaming, to the extent that it has its own dedicated Web site, Battle.net, which offers free gaming (you still have to pay for your Internet connection, of course, but there is no subscription fee as there is with most other online gaming sites). And, given the massive popularity of *Gauntlet* in its hey-day, it seems likely that a large quantity off gamers will enjoy playing *Diablo* very much, both online and otherwise.

It's a shame that Blizzard doesn't appear to have the creative flair and imagination to complement its unquestionable talent for producing slick, clever games

Edge rating:

Seven out of ten





The book resting upon the pedestal is one of the ways of learning new spells (top). Missed... (above)



The spell hotlist is a quick way of choosing your magic capabilities



Format: **PC**	Publisher: **Zablac**	
Developer: **Blizzard Ent.**	Price: **£50**	Release: **Out now**

Fighters Megamix





Not simply a hybrid, *Fighters Megamix* is a superb tribute to the art of the beat 'em up as practised by development team *AM2*. Graphically sharper than *Vipers*, the *VF* and *VF2* characters have never looked better





Sega's *Virtua Fighter* series shows every sign of becoming a variant-spinning franchise to match Capcom's *Street Fighter II* series. But whereas Capcom's sequels have occasionally disappointed, Sega's only seem to get better. *Virtua Fighter Remix* may have delivered nothing more than its title promised but *Fighters Megamix* is a real feast for fans of Sega beat 'em ups.

A fusion of *VF*, *VF2* and *Fighting Vipers*, *Megamix* features characters from all three games plus ten new ones derived from previous AM2 titles, giving the player a mammoth 32 fighters to choose from. The fighters retain characteristics from their own games, with all the *Fighting Vipers* characters sporting armour that can be shattered by a special blow.

Arenas, too, are culled from all three games, contrasting the fenced-in combat of *Vipers* with the precarious Ring Outs of the *VF* games. Complementing this range of fighters and arenas are a variety of playing modes including a time-limited survival mode, a team battle mode and a training mode where you square up to a CPU dummy.

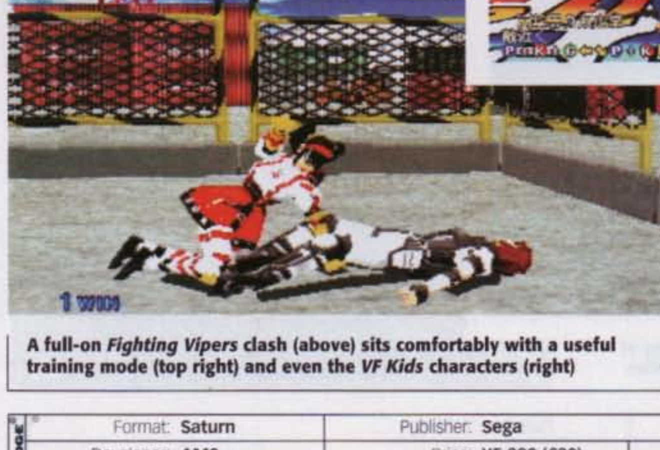
Fighters Megamix incorporates the best features of the Sega canon, and even includes some gameplay traits of *Virtua Fighter 3*, such as escapes. The X, Y and Z buttons give instant access to some of the regular multiple button presses making throws and certain special moves simpler to execute, all of which adds to the very solid core gameplay.

Though hardly essential to all but the most ardent Sega completists, *Fighters Megamix* is an excellent title that showcases Sega's beat 'em up prowess better than any of the individual titles concerned. Roll on *VF3*.

Edge rating:

Eight out of ten









A full-on *Fighting Vipers* clash (above) sits comfortably with a useful training mode (top right) and even the *VF Kids* characters (right)

Format: **Saturn**	Publisher: **Sega**	
Developer: **AM2**	Price: **¥5,800 (£30)**	Release: **Out now (Japan)**

Cool Boarders



Though its graphics are not the most impressive seen on the PlayStation, *Cool Boarders* does boast smooth, realistic movement and a great simulation of speed. Plus, once learned, the tricks are great fun to perform



Given the rising popularity of the sport, a 32bit snowboarding simulation was inevitable. It was perhaps also a sure thing that the first example would be intrinsically flawed – if only because it is something never before attempted.

Despite teething problems, though, *Cool Boarders* does have praise-worthy points. The three initially available courses are exciting and well structured, and the feeling of speed and gut-churning momentum you experience as your boarder swoops down the sometimes almost vertical slopes is surprisingly intense. Furthermore, although the scenery on each course is simplistic, there are some impressive sections: the Advanced course, for example, features a great tunnel section, while the incredibly difficult Expert course has a hair-raising chasm jump and a selection of wickedly banked corners.

On top of this sim realism is a decent attempt to combine all the facets of snowboarding into one game. Players race each course against the clock, but they can also perform tricks at certain stages to gain extra points. Effectively, then, both freestyle and racing boarders are catered for. However, because players can race only against a constantly ticking clock and not, for example, times set by other players, the experience is a rather solitary one.

No doubt better snowboarding sims will arrive in the future (Namco's *Alpine Surfer* coin-op is in line for a conversion to the PlayStation), but until then, *Cool Boarders* may well appease the more obsessive of the sport's afficianados.

Edge rating:

Six out of ten

Format: **PlayStation**	Publisher: **SCEE**
Developer: **UEP-Systems**	
Price: **£45**	Release: **Out now**

Reloaded

When Gremlin first released *Loaded*, it seemed that its top-down perspective was borne more from a desire to be different from the welter of *Doom* clones rather than any practical reasoning. Yet after a couple minutes of corridor wandering, gamers were soon marvelling at the spectacular pyrotechnics, dazzling neon lights and huge explosions. Essentially, the gaming perspective was the rediscovery of an old style, harking back to the days when The Bitmap Brothers' splendid *Chaos Engine* ruled the roost.

Reloaded, the sequel, offers more of the same. Again the protagonists are designed in the fashion of 2000AD-style characters – indeed, many of the characters are identical to their *Loaded* counterparts. Purple frock-wearing Butch returns, flame thrower at the ready, as do Mamma and Cap'n Hands. The problem here, though, is that the sprites are relatively small and it's difficult to feel any degree of empathy with a small man in a ripped dress.

The visual polychromy of the original has been enhanced further, with both use of colour and quality of texture mapping outstanding – but then visuals were always one of *Loaded*'s strong points.

In terms of gameplay, *Reloaded* differs little from its predecessor. You hawk around the levels, shooting everything in sight and gathering power-ups before making for the exit. Elevators and teleports are introduced in later levels and Gremlin has introduced missions this time around. The 'puzzles' that are consequently introduced are occasionally solved more by default than judgement, though, which leaves a somehwhat unsatisfying taste in the mouth.

Reloaded's biggest crime is that it's not a great improvement upon its forebear. While it offers mindless blasting by the sackload, there will doubtless be many who want such experiences wrapped up with more depth and finesse.

Edge rating:

Five out of ten



***Reloaded* takes the basic visual style of its predecessor, but improves on the texture mapping and intense lighting effects. Hence, gunfire appears as a multi-coloured onslaught of laser blasts and fireballs**

Format: **PlayStation**	Publisher: **Gremlin**
Developer: **In-house**	
Price: **£40**	Release: **Out now**

NBA In the Zone 2



The midfield (left) is often redundant in basketball sims, but *In the Zone 2* offers a modest range of defensive moves which can be put into good use here. Most of the hectic drama takes place around the basket (below) where the 'action' button is invaluable



It's always refreshing when a sports sim comes along that is equally capable of indulging obsessive fans *and* those who just want a laugh. *In the Zone 2* is one such game.

For the layman, it offers incredibly fast, addictive gameplay and beautifully smooth player movement. Learning how to play takes no time at all. There are three buttons: shoot, pass and action – the latter allowing an array of ducks, shimmies and dummy passes depending on what the situation calls for. And that's it. Amazingly, from this small selection of controls, it's possible to put together some incredible moves and even a few tactical plays. The novice can just hammer buttons and hope, and *In the Zone* still manages to be a compulsive and addictive experience.

For the basketball junkie, the game offers a wide range of pre-match options (including the chance to design a player and/or construct a dream team of NBA stars) and a list of post-match stats so comprehensive that it's possible to analyse a team's performance right down to the slightest move. Add the ability to change team-wide tactics throughout the game and a great stamina feature which tires your players just when you need them the most, and you have a comprehensive basket ball sim.

It is clear that Konami's sports game division has learnt a lot since the first *In The Zone* game, which was far too easy and not at all addictive. This sequel retains a certain immediacy of play, but has plenty of depth to back it up. Solid stuff.

Edge rating:

Seven out of ten

Format: **PlayStation**	Publisher: **Konami**
Developer: **In-house**	
Price: **£45**	Release: **Out now**

Testscreen round-up

Tetris Plus — *Saturn*

Publisher	**Jaleco**
Release	**Out now**
Price	**£40**

How ironic it is that, at a time when it should be reinforcing its worth as a polygon-pushing powerhouse, the Saturn is getting what amounts to little more than a conversion of a game that even the Game Boy can handle with ease.

The 'Plus' part of the deal is a story mode and a twoplayer split-screen option. It's also possible for players to create their own level designs, which is something never before seen in a version of Alexey Pajitnov's classic test of logic and dexterity.

The basic *Tetris* engine here plays solidly enough, and there may be a number of Saturn owners who hanker after every conversion of every arcade and popular game since the dawn of silicon, but the release of a tweaked version of something that nowadays amounts to little more than a PC or Mac desktop add-on seems to be stretching the boundaries of belief that little bit too far.

Edge rating:

Six out of ten



Amok — *Saturn*

Publisher	**Sega**
Release	**Out now**
Price	**£40**

Considering how long *Amok* has been in development at Scavenger (**Edge** obtained a playable demo just before Christmas '95), its eventual release has proved something of a disappointment. A *Doom* clone at heart, it sees the player piloting an amphibious robotic craft over land and underwater in search of enemies to kill and missions to complete.

While its graphics are accomplished (eliminating pop-up by fading scenery in from the gloom), the use of sprites for enemies and some less-than-convincing peripheral detail are disappointments. The major problem with the game, though, is its size – there are only nine compact levels. As a consequence, to prevent players from finishing it at their first sitting, *Amok*'s difficulty level has been set frustratingly high.

A year ago *Amok* looked like the way forward for the Saturn. Now, however, it looks like it's just missed the boat.

Edge rating:

Six out of ten



Crusader: No Remorse — *PlayStation*

Publisher	**EA/Origin**
Release	**Out now**
Price	**£40**

It may have been around on the PC for a year now – in fact a sequel entitled *No Regret* has recently emerged – but *Crusader: No Remorse* is just as engrossing in its new PlayStation clothes.

Your bright red sprite scuttles around the enemy bases causing fuel drums to erupt in flames, enemies to run about on fire screaming until they die, and scenery to crumple. The puzzles are never taxing, exactly, mostly being simply a case of finding key cards to open doors, but the urge to keep exploring and get to the next level is considerable.

While the explosions are jolly impressive, *Crusader* generally looks more like a 16bit game than a new PlayStation title. It doesn't even scroll. And its controls are a real handful, with no amount of flicking between the rotational and absolute options ever making it feel entirely comfortable. Above average, then, but definitely no landmark.

Edge rating:

Seven out of ten



NBA Jam Extreme — *PlayStation*

Publisher	**Acclaim**
Release	**Out now**
Price	**£40**

NBA Jam presents the two-on-two style of basketball, only it panders not to realistic simulation, instead offering the gamer a plethora of special moves – players can somersault high toward the arena ceiling before dunking in spectacular fashion, flames trailing from their shoes (whereupon the enthusiatic commentators are wont to shout 'I smell smoke'). The original PlayStation *Jam, Tournament Edition*, was essentially a no-frills conversion of the SNES game, but for the sequel Acclaim has gone the 3D route à la *Total NBA*. The game itself is virtually identical bar a few extra moves and new statistics, with codes giving access to a host of extra features, such as giving players huge heads.

Jam is the most accessible and addictive form of console basketball – the relative simplicity of the gameplay makes it so – and *Extreme* is the logical step forward.

Edge rating:

Seven out of ten



Tempest X — *PlayStation*

Publisher	**Interplay**
Release	**Out now**
Price	**£45**

When *Tempest 2000* was first released on the Atari Jaguar it was acclaimed by many as one of the finest shoot 'em ups ever. Indeed, a great many Jaguar owners were persuaded to buy the machine on the strength of the title alone.

Tempest X is essentially the same game as *2000*, only it packs a lot more beef, with extra levels (128 in total), more foes, cleaner visuals and a more accomplished soundtrack.

Though *Tempest* has been around for some 15 years, the original concept still holds true. Parked at the extreme of a grid, the player twizzles while splattering the oncoming alien craft and collecting power-ups. The gameplay, although repetitive, is incredibly frantic and while doyens of *Doom* and its ilk may find it a little unsophisticated, *Tempest X* remains a blast to the senses and a fine space-based shoot 'em up.

Edge rating:

Eight out of ten



Flying Corps — *PC*

Publisher	**Empire**
Release	**Out now**
Price	**£45**

While the world of flight sims has been absorbed by the clinical drudgery of modern warfare (get within 25 miles of the target using autopilot, fire a homing missile, autopilot home), Rowan has continued in a traditional vein in creating a WW1 sim.

With a choice of six aircraft, all of which handle not only distinctly but like metal baths fired from a cannon, *Flying Corps* is an incredible challenge. The first week of play will be spent just gradually turning off the various options to make your flight more realistic, but you'll still get shot down the first time you encounter an enemy squadron.

You play over four historically accurate campaigns as either the good or the bad guys, while attempting to manage the morale of your Jasta. This is an immense, intense, involving and playable experience which proves once again that Rowan is the king of the historical flight sim.

Edge rating:

Eight out of ten



Once seen as a bandwagoneering concept by *Virtua Fighter* fans, Namco's *Tekken* series has since garnered great respect. Part three is an eagerly awaited title...

Tekken 3





The System 12 board allows for improved graphics, including such minor details as the 'energy' bursts that appear when a successful hit is landed





Though the game looks very similar to its predecessors, Namco has changed play mechanics so that fighters can be moved into and out of the screen

The third instalment in Namco's superlative beat 'em up series is set 19 years after *Tekken 2*, which has the obvious – but nevertheless odd – side effect of making all of its characters around 40 years old. Whether they'll experience any drop off in their prodigious fighting abilities as they near middle age remains to be seen, but it's doubtful Namco would go to the trouble of basing a beat 'em up around mid-life crisis menopausals.

There is only one new character, Kazama Jin, the son of Kazama Jun and Kazuya. Kazama Jin grew up with his mother on Okushima, a southern Japanese island, and is 19 at the start of the game. But Jun is dying and her last words to her son were to visit his grandfather, Heihachi.

All this intricate soap opera-style plotting takes a back seat to the new System 12 board that *Tekken 3* runs on. An improved version of Namco's previous

Developer:	Namco
Release:	TBA
Origin:	Japan


Namco's in-house graphic artists have reflected the passing of 19 years in the features of *Tekken 3*'s combatants, albeit in a rather subtle fashion




Paul and Yoshimitsu collide in what will look like a familiar scene to the average arcade-goer. Will *Tekken 3* include enough extra gameplay tweaks to make it something more than *Tekken 2* with better visuals?




The dress of each character is another altered aspect. Law now fights in more traditional togs (above left) or a vest (above right). Striking opponents while they're on the deck is still possible (centre right)

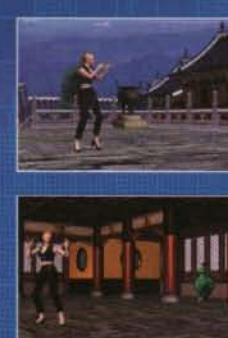
System 11 technology, it reputedly has 50% more rendering and processing power than its predecessor. Like its most immediate rivals in the arcades, *Street Fighter EX* and *VF3*, *Tekken 3* attempts to break from the style of linear fighting along a 2D axis that's been de rigeur since the first *Virtua Fighter*.

The characters still don't move in what could be described as true 3D, but by shifting the joystick, fighters can be forced to move into or out of the screen.

Graphically, *Tekken 3* doesn't look far removed from *Tekken 2*, but character design and animation is a great deal more refined. Using what Namco has termed 'envelope processing', characters now have much more precise and realistic actions. For example, characters' hands now open and close, and clothing now moves in response to character movement. Background graphics have also been improved with the addition of minor details such as tiny scuffs of dust at a character's feet and more impressive spot 'energy' effects.

Tekken 3 seems every bit as promising as its precursors. The System 12-based game will obviously lose more in its transition to the PlayStation than those it succeeds did, but this factor will not affect its chances of success in arcades.

Due to make an appearance at the Japanese AOU show in February, the game will surely attract gamers who have grown tired of *Virtua Fighter 3*.


Typically gorgeous CGI reinforces Namco's reputation as one of Japan's leading exponents of the craft

Namco Museum Volume 5

The familiar face of Pac-Man makes a return to the PlayStation in one of five more fondly recalled coin-ops from the halcyon days of videogaming

Anyone who has indulged in a teary-eyed trip down memory lane courtesy of Namco's *Museum* series will have no doubt noticed the single letter which adorns the packaging of each volume. When the set is complete, the five CDs will make up the word 'Namco'. Given that the 'O' volume effectively concludes the series, questions have already been raised concerning the company's plans to adapt any more of its treasured back catalogue for Sony's machine. Optimists will no doubt consider the fact that the most recent game on this latest compilation (Pacmania) is still a harrowing nine years old – could this mean that the company has plans to convert less antiquated titles for future compilations? Perhaps.

Volume 5 contains a selection of coin-ops from the mid-to-late Eighties, only one or two titles of which will be lost on western audiences. With the possible exception of *Pacmania*, which embodies a timeless appeal, most are titles that will only entertain avid fans of the original coin-ops. As usual the museum section of the package has been further improved and prerendered sequences illustrating each game have been added.

Metrocross

Metrocross is a side-scrolling affair that was originally released in Japan in the summer of 1985, its popularity peaking in the home when it was converted to the 8bit Famicom. Featuring a character sprinting through underground passages, the gameplay was a simple affair of avoiding numerous obstacles and completing courses within a set time limit. Eight stages, each divided into four rounds, gave the player the chance to use the occasional skateboard and collect various bonuses as he progressed.

Format:	PlayStation
Publisher:	Namco
Developer:	In-house
Price:	¥5,800 (£30)
Release:	Spring (Japan)









Arguably the most enjoyable game of the package is *Pacmania* (above and below), while trusty vertical shooter *Dragon Spirit* (top) plays tightly, if a little on the slow side



A souped-up museum section (above centre) marks an improvement upon previous releases. *Baraduke* (above) has a graphical style like *Blood Money*



Dragon Spirit

Considering that 1987 was the year when Namco pioneered developments in 2D graphics (games such as *Assault*, *Ordyne* and *Metal Hawk* impressed with their use of sprite and screen rotation), *Dragon Spirit* bears all the hallmarks of a game using coin-op technology at the end of its lifespan. Despite its rather rough appearance, *Dragon Spirit* possessed sound playability and wowed fans when it made the conversion to the PC Engine the following year.

Pacmania

At a time when macho slash 'em ups and shoot 'em ups were the order of the day in most arcades, *Pacmania*'s success was by no means guaranteed when it surfaced in late 1987. Curiously, though, female players loved it and to be fair it was an exceptionally entertaining eversion of *Pac-Man*, the isometric viewpoint and ability to jump over ghosts adding considerably to the simplistic but fiendish core gameplay. Asthetically, *Pacmania* still holds up well even nine years on.

Baraduke

Bearing similarities to *Section Z* and the Speccy classic *Cybernoid*, *Baraduke* was a rare coin-op from mid 1985 than even **Edge** fails to recall. The player navigates a police space ship through 48 different levels of enemy-strewn territory and, between each floor, indulges in a game of roulette in order to try and increase his shield gauge.

Legend of the Valkyrie

Only PC Engine owners may remember this odd but well-loved adventure that bears a resemblance to the equally obscure SNES action adventure *Dracula Kid* as well as sharing similarities with Nintendo's *Zelda*. Featuring two main characters, Valkyrie (a female equivalent of Link from *Zelda*) and Xandra (a cute green blob), the gameplay essentially consists of wandering up a scrolling screen attacking enemies with weapons and magic. But what really makes it is the bizarre collection of events that occur along the way in a similar fashion to Konami SNES classic *Goemon*. Great music, too.









Dragon Spirit (above and top), *Metrocross* (top right) and *Baraduke* (right) all share the distinct look of mid-'80s games















Legend of the Valkyrie (top row) is perhaps the most obscure game in the collection because it only ever reached Japanese audiences. PC Engine owners will remember it as a classic, though. Whether the simplistic shooting nature of *Baraduke* (above) will entertain in 1997 is debatable

LETTERS

EXPRESS YOURSELF IN EDGE

WRITE TO EDGE LETTERS 30 MONMOUTH ST BATH BANES BA1 2BW

Since time immemorial your fine magazine has often been criticised for supposed partiality for whatever was the cutting-edge game platform of the day. Whatever the truth of the situation, it wasn't something that bothered me – until the arrival of the Nintendo 64, with your 'support' being, at times, rather blatant. Can it be that you want us all to buy one?

I've no doubt that the N64 is a technically excellent machine and has some undeniably great games. However, with the games being likely to cost us both arms and legs, that doesn't really sound the stuff that mass markets are made of, despite your statements to the contrary. It's really a machine designed for Americans or Japanese with more money than sense, and I don't think that the feeble 60Mb bulky drive will be the answer to us impoverished Europeans – this is Nintendo we're talking about, and it'll be taking us for every penny. Since when has it not?

I also think that you are putting too much faith into Nintendo's so-called 'quality assurance' which, to me, seems like the infamous 'Seal of Quality' on the SNES. What's the betting it will be the first thing to go? Also, I'm surprised you haven't picked up on another nasty side effect of cartridges, in that those few companies that decide to support the N64 are going to have to make heavy financial commitments in terms of cost and inventory, and the implication there for us gamers is that we're going to get an awful lot of fairly safe and generic software designed to sell big to the lowest common denominator, like the 50 million beat 'em ups and platformers that graced the SNES, and all the cool thirdparty stuff that might or might not sell, like Enix RPGs and Konami's *Mystical Ninja* series, will be enjoyed only by the Japanese. If you seriously believe it can't happen to the N64, then think about the SNES, and remember how the market was soon flooded with clones and that, for every one great game, we got at least ten that weren't. There's absolutely no reason for anyone to assume that the N64 is going to be any different, great initial games not withstanding.

This isn't what we expect to see in **Edge**, which is supposed to be an impartial multiformat magazine, not some plugging organisation for Hiroshi Yamauchi. What happened to impartiality?

Jaimie McLean, address witheld

Edge can't help calling it how it sees it – when *Ridge Racer* and *Virtua Fighter* appeared for the PlayStation and Saturn respectively, they raised the benchmark and were acknowledged for doing so. *Super Mario 64* did the same, and there can be few gamers who could fairly argue otherwise. This isn't bias, merely honest, open opinion.

Edge is very aware of the fears some have concerning carts and has tackled the issues mentioned in your penultimate paragraph in previous issues (see **E**35 for a balanced appraisal of the Nintendo 64).

You have a valid point in saying that the European market will never enjoy the same breadth of software choice as native Japanese. In the past, companies like Konami have brought 'quirky' games to these shores and seen them sell poorly in comparison to more middle-of-the-road product. Which, sadly, would appear to be a case of the consumer making the decision on its behalf, not Konami itself.

It's still too early to tell how the N64 software sitution pans out, but the signs so far, at least from looking at the games reviewed this month, look far from bleak.



Jaimie McLean accuses Edge of bias towards the Nintendo 64. The machine is doomed in the UK, he claims, thanks to the limitations of its storage medium and an impending downturn in the quality of its software

I was pleasantly surprised to see my letter regarding retrogaming and nostalgia printed in **Edge** 38. (Look mum, I'm in print!) Since then I have had the opportunity to reflect on my words, which were perhaps a touch rash.

Recently I came across a Nintendo trailer giving demonstrations of N64 software, and I had the good luck to play *Mario 64*, *PilotWings 64* and *WaveRace 64*. After reading

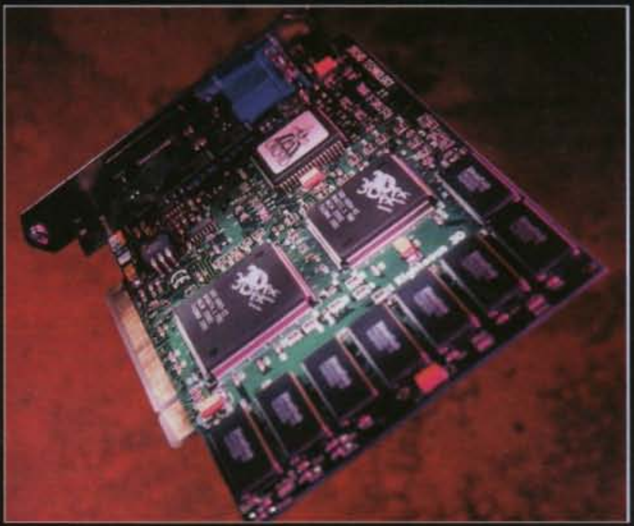
Edge's review of *Mario 64*, I was expecting nothing less than the astounding. And it's a testament to Nintendo that, despite the shots and glowing reviews I had seen, I was still completely surprised by the game. What has been seen in magazines does it no justice. It has to actually be seen in motion.

Although I had no real problem with the 10/10 mark *Mario 64* received, I was sceptical that an almost perfect game had been achieved. But **Edge** has vindicated itself, even though it must be said that *PilotWings* has more immediate impact, with a breathtaking feeling of freedom. Nintendo must be doing something right if a busy shopping mall can fade away in the background as you swoop over Mount Rushmore.

Of course, this isn't simply a gushing pro-Nintendo letter, as I still have my doubts over cartridge technology, and the limited thirdparty support. And March '97 is still a long way off in gaming terms. But *Mario* and *PilotWings* are the most innovative and graphically impressive games I have seen in a long time, and that bodes well for the future.

Also, after reading the music feature in **E**38, I bought Wipeout 2097: The Soundtrack, to gain my first insight into British house/ underground music, although my taste in music does not normally lie in this direction. Thankfully, I can say it was worth it.

Ian Roney, address witheld



Christopher Ward bemoans the lack of clarity in the PC 3D accelerator board scene. Manufacturers should standardise benchmarks, he says

The prediction is that the 64bit level is where the technology race will pause for a few years, 128bit being some way off yet. Trip Hawkins agrees that the Net will be important, but Sega, its big move being with Saturn Netlink, has set it up on a platform that's about to fall away from under it. At £200 (in Japan), it is a high price for consumers because it doesn't bring any hardware upgrade as far as gaming is concerned.

Sony's PlayStation is the most successful next-gen console, but to me its situation is still uninspiring. Yaroze gives an indication of how Sony is building for the future, and, although commendable, it gives me no confidence in it as a videogame company. Essentially it's looking for other people's ideas rather than using its own.

Nintendo did well to go to 64bit straight off and make a machine good enough to do 3D properly. However, the 64DD seems to undermine its spanking new platform by being needed so soon after launch. Is it just an expensive patch on the N64's memory problem.

Maybe not. From what Miyamoto-san said at Shoshinkai, it seems his company has a much more inspiring vision of the future than its rivals. 'We are trying to go where no game designer has gone before,' he declares concerning the writeable aspect of the 64DD, and it's good to hear a top designer saying he doesn't just want 'more gorgeous titles with the same themes, but... many other applications.' He's right when he talks about him and them (his competitors) aiming in different directions, and I know who I want to follow. Look at Nintendo's first four titles – it makes the finest games in the world. Its innovation – the N64's controller and its four controller ports, for example – proves that it is the best at what it does. Sony could never have done these things on the PlayStation because it doesn't know enough about videogames yet; about how games are played. It's no wonder that its vision is limited.

Harry Combe, address witheld

Nintendo's continued success can be attributed to many factors, but innovation is certainly among the strongest. It's only too aware of how tired game concepts can stifle console gaming, and it's an attitude that many softcos would do well to adopt.

I have to commend you for grappling manfully with the topic of PC 3D cards in **E**40.

While it is clear that 3D graphics cannot carry on being generated solely by the CPU (no matter how big a Pentium you've got strapped to your machine), you were right to point out that the main problem with the new dedicated graphics architectures is that absolutely nobody can understand which is 'the best bet', as it were.

To a certain extent this situation occurs every time a hardware company throws its hat into the arena (even now, the PlayStation/Saturn debacle rumbles inexorably onwards), but in this case there are a number of extra factors that will have to be satisfied before punters will start fishing for their wallets.

The first of these concerns performance. No matter how vehemently it is denied, PC owners have never enjoyed playing second fiddle to the latest consoles. People will be far more inclined to pay £150 (not including VAT) for a board offering demonstrable power over that of the PlayStation or Nintendo 64. Also, the confusing benchmarks supplied by manufacturers must be standardised in some way to allow potential consumers to compare cards' performance.

A big badge on the box containing the words 'Microsoft Compatible' is usually a good sales booster as well, for a good number of PC owners are also technophobic parents to whom 'Microsoft' is an assurance of the 'safety' of the product. The board offering the best compatibility with Direct3D will also get the most future support, as it is inevitable that games programmers will cater for the lowest possible denominator (i.e. Microsoft's set of APIs) to sell more game and make more money.

The third, and possibly most important, factor is the support the card will receive from developers. In this respect, the ease with which existing code can be ported to the 3Dfx chip places it in a better position than the arguably superior PowerVR, because publishers always adopt a format more quickly if less effort is involved. This was the case with the PlayStation, its comparitively open architecture allowing developers to publish a greater amount of games for the launch of the machine than for the more complex Saturn, leading to Sony's dominant position.

The amount of speculation generated about PC 3D hardware over the past few months proves there is a willingness in the PC fraternity to adopt custom graphics hardware. The process was just as difficult years ago when the PC first needed 2D graphics acceleration; perhaps it is now time for the PC to make its first real steps into a three-dimensional world.

Christopher Ward, Nottingham

The three factors you mention are indeed of upmost importance to 3D card credibility and will play an important role in determining which of the accelerator boards will be successful as the year progresses, and which won't.

However, the arrival of Intel's MMX technology (see News) may well provide another hurdle for 3D card manufaturers in the coming months. Although Intel's technology is still in its infancy in terms of developer support, it is already providing some astonishing results. Epic's *Unreal*, for example, employs the technology to create some beautiful lighting effects, while UbiSoft's MMX-compatible version of *Pod* apparently achieves a 30fps frame rate at a resolution of 640x480 – exactly the sort of performance graphics cards were promising last year.

With Intel planning to phase MMX technology into its PCs throughout this year, graphics card manufacturers have two choices: they can either concentrate their efforts on attracting non-MMX PC owners only (admittedly a substantial figure), or they'll have to convince consumers with brand-new MMX machines that they'll also need a graphics card. It won't be an easy job if MMX performs as well as early indications suggest.

Before *Doom* arrived on the videogame scene, the idea of a truly scary game seemed ridiculous. Now, though, it seems to me that it is interactive entertainment that is providing the real scary experience. *Bio-Hazard* proved a genuinely creepy experience last year, and I've recently played the T-Rex scene in *Tomb Raider*, where I was terrified to emerge from the safety of the caves in the cliffs – and when the ground started shaking with the sound of its foot steps, well, the experience was nerve-wracking.

Games scare me in a way that films and books cannot, and the elements that must be responsible for this are the interactivity coupled with the more realistic environments of modern games. But the visuals in *TR* cannot compete with 'Jurassic Park' the film, so obviously the quality of graphics is not the overriding factor here.

The point I'm getting at is that it is currently possible to recreate that *TR* T-Rex scene with Model 2-quality graphics or above and a VR headset. It wouldn't be economically viable but technically we could do it. That means that at some point in the near future this will become a reality, first in the arcades then in the home. And in such a scenario though the player would intellectually know he was just playing a game, the quantity and quality of environmental clues would be sufficient to trick his senses that the experience was real. The effect is likely to be terrifying, exhilarating, and if the player has a heart condition, quite possibly fatal.

I'm not suggesting such experiences would be undesirable, but the industry should probably be investigating what the effects of such an immersive experience would be.

Gary Moran, Birmingham

This is an interesting point, but one that can only fan the flames of the 'videogames are bad for you' argument in the favour of its supporters.

Edge would be interested in hearing from any other readers concerning this topic. Do games evoke the senses much more than movies? And how has the growth in graphical realism in recent years changed their effects on the player?

I'm sorry but I completely fail to see the significance of Net Yaroze. You seem to expect games enthusiasts who would like to do a little developing themselves to shell out £550 for the 'black PlayStation'. You won't even be able to sell your own games to ordinary PSX owners! Plus they have to fit in 2Mb system RAM, so no data streams. The Yaroze seems targeted at the game-playing PC owner. Now, £70 for a C compiler and another £40 for a games programming book – bringing together all the code needed to write advanced games including video, 3D, CD-quality sound, etc – is just one fifth of that price. And, you can distribute your games freely over the Internet and charge for them too. And you have the same options of sending games to publishers for the more popular PC platform. Your argument against this will be: the massive size of games created is useless for 3.25in disks and the Net. Look, I bet the average Yaroze user will be programming simple *Pac-Man* clones. You could always spend the left over £440 on a writeable CD drive.

Tom Grek, via e-mail

Two of the key benefits of getting into game development via Net Yaroze are the fact that it's a 32bit console environment with many existing standard libraries and easier accessibility than the PC, and that by adopting the system you immediately become part of a club-like user environment that is going to be heavily supported by Sony in Europe, especially where Internet communication is concerned. No one expects it to replace the PC as an enthusiast's game-development environment, instead it's likely to appeal to users whose expertise doesn't run to that of hardcore PC users'.

The project is admittedly a brave one, but **Edge** has no reservation in giving it its full support.

Having read **Edge** 40 with interest I noticed that you questioned the ability of the forthcoming *Street Fighter III* to pull in the punters. In the arcades I have been in recently it seems to be *X-Men vs Street Fighter* that is attracting the crowds. Some of these places have a *Virtua Fighter 3* machine sat right next to it. I think that maybe people are wanting more of the extravagance that 2D games offer. Up until now 3D fighters have lacked the following that made the likes of *Samurai Shodown* and





With 3D games such as Sega's *Virtua Fighter 3* (left) taking the beat 'em up concept into new territory, is there still room for 2D exponents of the genre, such as Capcom's imminent *Street Fighter III*? Simon Wyndham argues that 2D examples are more popular and that the two can co-exist



With the existence of the PC as a game-development tool for home users, Tom Grek cannot see the point behind Sony's Net Yaroze

the *Street Fighter* series a success. Firstly, humility. They were never too serious. Secondly, the sheer speed of play. Sure, *Tekken 2* was fast, but not in the same responsive way that *Street Fighter* is. Thirdly, extravagance. Although *Tekken 2* does have some nice pyrotechnics, it does not quite have them in the same vein as the likes of *X-Men*, for instance, where the entire screen can become engulfed in laser fire and explosions. Also, 3D games lack the same kind of combo construction. *Tekken 2*, while good at this, still really limited the player to preset combos.

My last point is that, apart from more realistic animation, 3D fighters do not really offer anything more than nice-looking visuals over a 2D game (which also has nice-looking visuals anyway). A true 3D control system will be way too cumbersome for the average player to want to get to grips with, and even then people cannot generally react quick enough to the opponent's movements to get out of the way in that sense. Forthcoming real 3D fighting adventures on the PlayStation and Saturn look promising, but will have too much depth of play to be included in any arcade. So, all in all, I do not think that there is much point in saying that 2D fighters are outdated and obsolete. Both types of fighting game seem to offer different types of play to different people. Both are equally as good.

Simon Wyndham, via e-mail

There is, and probably always will be, a hardcore sector of fighting game fans that will gravitate towards 2D examples, hence the development of games such as *Fatal Fury 5*, *Samurai Shodown 4* and, indeed, *Street Fighter III*.

In an arcade environment, though, where coin-ops garner much of their turnover from less dedicated visitors who are lured by flash visuals and even flashier cabinets, it will be machines such as *Virtua Fighter 3* that grab the lion's share of coins.

Yes, it's true that 3D beat 'em ups do not offer much beyond 2D examples in gameplay terms, but it will be interesting to see how the genre develops over the coming years. The nature of their presentation opens up many new avenues, and progression doesn't necessarily have to mean a spate of games that prove 'way too cumbersome'.

I am very disappointed that you have again ignored a superb RPG, *King's Field II*. Considering its US-oriented, English-text nature, I wonder why you didn't consider reviewing it

Matarrese Francesco, Taranto, Italy

Edge's reviews section is in the process of growing, which should make room for such games in the future.

Q&A

Rely on Edge to cut through the technobabble. Write to Q&A, Edge, 30 Monmouth Street, Bath, BA1 2BW

Q **1.** Does the US Nintendo 64 have an RGB output? I need to know, as in a few months a relative will be going to the States and I was thinking of asking them to bring one back, seeing as they are considerably cheaper. The problem is, my TV isn't NTSC compatible, so my only hope of playing it would be by using a RGB SCART lead.
2. Do the JAP/US game converters/chips for the PS allow NTSC games to run in their intended full-screen, full-speed form via SCART?
3. And what results would I get from using the RF lead supplied with the console?

William Anderson, via e-mail

A **1.** No, but US machines can be internally modified to be RGB compatible in the same way Japanese models can.
2. Yes, but modifying PlayStations in this fashion allows the running of illegal pirated CDs and Sony is currently in the process of suing outlets advertising them
3. If you were trying to run an NTSC game, you would get a black-and-white picture.

Q **1.** What is Matsushita doing with M2? The machine was supposed to generate 1 million polygons per second or 750,000 if using all available effects. This was a master selling point of the machine – it was supposed to be comparable to Sega's Model 3 board. So why is the machine now being quoted as able to generate 1 million polygons per second or 500,000 with all effects on? I thought that Matsushita had elected to add a second CPU to the system to avoid this very problem.
2. Why will it take over a year for M2 to come to the UK?
3. Will M2 have a serial port so you can link two machines and play games head-to-head?

Trevor, Angus, Scotland

A **1.** Forecasting polygons-per-second counts is a notoriously difficult – and some would say ultimately pointless – exercise. Originally, M2 hype was generated by The 3DO Company and, despite the fact that the machine *has* undergone a performance boost while under Matsushita's control, figures previously touted by Trip Hawkins should be taken lightly.
2. Because, like Nintendo, Matsushita has commitments to its home market, Japan, to fulfill before it's able to launch a full-scale manufacturing and marketing assault in non-native territories such as the UK.
3. Matsushita has yet to confirm precise details such as this.

Q In the Q&A section of issue 41, you mentioned a 'minor operation' which allows a Japanese N64 to play US games. I would be most grateful if you could tell me how this is done and if I could do it myself at home. I have a Japanese N64 and would love to play US games on it so that the text is in English.

Richard Morris, via e-mail

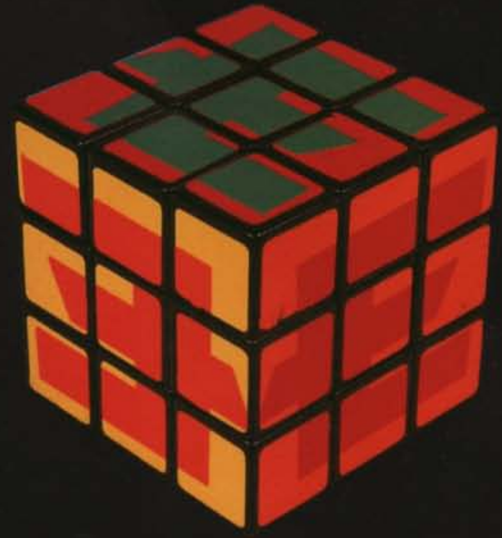
A The process is fraught with potential hazards, and **Edge** obviously cannot take responsibility for any damage caused to your machine should you go ahead and attempt doing it at home, but the process involves removing the two plastic moulded blocks – which exist simply to obstruct the insertion of foreign cartridges – that appear just behind the N64's cartridge port edge connector.

Edge has heard of users doing this with scissors, soldering irons and even heated knife blades. Most N64 importers perform the service – by actually opening the machine's casing to get to the blocks – and this is the safer option.



Following this month's exclusive report on the first UK-developed M2 title, *Power Crystal*, Edge visits its creators in Hull to get the full story on what is shaping up to be one of the most incredible adventure games ever realised. Also in issue 43: imagine a realtime landscape drawn as far as the eye can see, with a fast, smooth frame rate and no background pop-up. Edge reports from Oslo on the development of one of the most advanced 3D engines ever created for the PC and reveals the first stunning projects to implement it.

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on sale February 28




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